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Review.

ADVANCES IN THE TREATMENT OF VENEREAL
DISEASES DURING THE WAR 1939-1945

Surgeon Captain J. G. MACGURE R.N.

Page 117 (Vol. XXIV No. 4) 1945. The treatment of venereal still leaves a lacuna, very important during the war in the Royal Naval Medical Division and Fleet Hospital Command. C. MacGure R.N. (1947) *Proc. R. Soc. Med.* vol. 40, page 591. Surgeon Captain John J. G. MacGure, M.D. R.N. (1948) *Proc. R. Soc. Med.* page 575. The treatment of venereal still leaves a lacuna, and MacGure's review, a review of venereal diseases during the war is an

even more so just a lacuna. Lord was asked to light a path which dispensed the darkness of ignorance and prejudice, and he incorporated a process of thought and action which culminated in the saving of the lives of many women and children, as well as to make the technique of living less painful.

The purpose of this dissertation is to give a biographical picture of the man James Lord so far as it is known, a note of his writings and work, and then a presentation of his reforming concepts with an emphasis on his influence over his two disciples, Hume and Trotter. The remainder of the paper is an extended appreciation of the moral health and hygiene problems from the nineteenth century to the twentieth century, and of conditions leading to the increasing need for action in the service. Finally I would like to present the moral medical practice and the outstanding adventures and events of that period of my subject, which so emphatically influenced the course of the destiny of Britain.



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Reviews

JAMES LIND, M.D.
EIGHTEENTH CENTURY NAVAL MEDICAL HYGIENIST

Part I

Biographical Notes with an Appreciation of the Naval Background

BY

Surgeon Lieutenant-Commander J. GLASS, R.N.

In October, 1719, Britain and Spain went to war, and a first-order Admiral Beilby was ordered to the Mediterranean. A month later Vice Admiral Vernon, with twelve ships under his command, was sent to take Porto Bello; this was completed on 22nd November 1719.

As in all wars, men of all calibres were numbered to man the ships and fill the ranks of the military. Amongst the more adventuresome and patriotic who left their British homes to join the warring fleets on the French was a young man, 22 years of age, who was an apprentice to an Edinburgh surgeon. The youngest was James Lind, who, with the benefit of his previous training, joined the Royal Navy as Surgeon's Mate and began an association with the Service which was to last a lifetime. Lind was faced to fight a path which diverged the direction of ignorance and prejudice, and he thus created a process of thought and action which culminated in the making of the lives of many seamen and civilians, as well as in the technique of living less poisonous.

The purpose of this dissertation is to give a biographical picture of the man James Lind to let us as it were, a note of his writings and work, and then a presentation of his advancing concepts with an emphasis on his influence over his two disciples, Blizard and Trotter. The remainder of the paper is an ordered appreciation of the naval health and hygiene problems from the sixteenth century to the eighteenth century, and of problems leading to the increasing need for reform in the Service. Finally I would like to present the naval medical practice and the outstanding adventures and events of that period of my subject, which so expensively influenced the course of the destiny of Britain.

The family name (Land) is traced by the genealogist Sir Robert Douglas [1] who states that James Land M. A. of Leith sold his ancestral estate at Leith to Lord and in May 1594 bought a property known as Crockett or a Croft, Leith.

His son John of Crockett or sold the property to in the reign of Mary Queen of Scots and the family went to settle in Edinburgh. John of Crockett's son, also John married Mary third from Pentlands and his son the third generation of John married Isabel Boyd from Perth. They had five sons, one of whom, James, became a Merchant and Surgeon of Edinburgh and married Margaret Swinton in the 24 February, 1707, at Edinburgh. They had two sons. The one James became the Physician at Hush and the other John became a naval officer. James was born on the 24 October 1714 in Edinburgh, the birth and baptism being recorded in the Register of the City Parish Church. This is the James Land who will remain our attention.

Another James Land (1730-1812) who was also born in Edinburgh, treated as a physician and also pursued there as well to have been a surgeon and friend of his namesake the naval physician. The second James Land who had talents as an astronomer, geographer and medical writer was much travelled and a surgeon in the India Company and also practised medicine for a time in India. He became physician to George III at Windsor and was a Fellow of the Royal Society. Confusion thus in mixing the names and events in the lives of these two active gentlemen has often arisen and close study of references is necessary to determine which doctor we are honoured to become intimate with.

In the records of the India Company appear two other surgeons named James Land who lived in that period and who are distinct from the Naval Surgeon and the Royal Physician.

To return to our James Land, nothing can be denied of his boyhood or schooling. However on 22nd December, 1730 at the age of 18, young Land became the registered apprentice to George Langlands, a member of the Incorporation of Surgeons of Edinburgh. Langlands studied under the famous Boerhaave (1684-1738) at Leyden University whilst was noted as the Dictionary of National Biography that he was a Fellow of the Royal College of Surgeons [2], presumably of Edinburgh.

Another visit in the chart appears, and the next event of moment is that in 1738 when Land joined the Royal Navy as a Surgeon's Mate on the declaration of war with Spain. His brother John was already an officer on the Royal Navy and thus most likely influenced young James in his choice of career. Of this phase which lasted nine years, until the end of the war in 1748 it is known that he served under Admiral Haddock at Tientsin and that his longest cruise was in H.M.S. *Salisbury* under Commodore the Hon. C. Ridgway from 18th August until 26th October 1748. He observed the Coast of Guinea and the West Indies and he visited Mediterranean and Channel Ports during the period of his service.

Leaving the Navy in 1748 he took up private practice in Edinburgh that year after graduating on the 3rd May 1748 with the M.D. of the University of Edinburgh. He continued the Royal College of Physicians of that City to

print his *Præcis de l'histoire et état de la maladie*, which was printed.

He was elected on the 1st May, 1700, and was elected a Fellow of the Royal College of Physicians of Edinburgh, and seven years later he became Laureate in that body.

The following entry appears in the *Annals Magazines* of 1716 (4). At the annual meeting of the Royal College of Physicians of Edinburgh, held at their Hall on 2nd December 1716, the following gentlemen were chosen into the several offices of the college for the ensuing year: viz. Sir Alexander Beth, President; Drs Adam Warner and Robert Whyte, Censures; Dr William Colles, Secretary; Dr James Ford, Treasurer; Mr Francis Hunter, Fiscal; and Mr Henry Balguy, Clerk. This post he resigned on being appointed Physician in-Chief of the Royal Naval Hospital, Dublin, at Old-port, Harp, where on the 1st June 1716, according to G. Cuthbert, who was, the last Physician of the Hospital, which had served four years previously. It is probable that he was offered this appointment because of his experience, knowledge and understanding of the nature and diseases of seamen.

At this point I would like to present an outline of his writings. The first effort he threw in the M.D. Edinburgh, which was written in Latin and prints the title *De Morbis Lævæ Lumbæ Castidius*. This early writing did not create the Results.

This great product of his efforts, his *Præcis de Sciergy* (4) was written in three parts and contained an enquiry into the nature, causes and cure of that disease, together with a critical and chronological review of what had been previously published on the subject. The *Præcis* went to several editions; the second edition appeared in 1707 and the third in 1712. There were also two editions in French, in 1710 and 1715.

It is interesting to note that Tunstall (1837) states that an ancestor of his, a Dr. Patrick Henry, born at Falkirk, Scotland, in 1716 and who studied and qualified at Edinburgh University, assisted Lord in the writing of his classic *Præcis de la Sciergy*. As the work was published in 1710, Henry would be but a youth of 14 and such a statement requires considerable support before it can be accepted as such, unless it is a later edition to which reference is made.

The next year, in May 1714, he wrote a paper on the possibility of lead poisoning arising from ailments of concentrating orange and lemon juices in a thick syrup, and which was afterwards stored in common lead glazed earthenware. He pointed out that as a result of the action of the concentrated acid on the glass, a soluble lead salt was produced which was poisonous. The paper appeared in the *Edinburgh Weekly Magazine*. Thirteen years later, Sir George Baker developed this theory as the cause of 'Barbadoes Colic' when apple cider dissolved the lead used in the pattern for its manufacture and storage, by formation of similar salts.

Three years later, there was published *An Essay on the Most Affected Manner of Preserving the Health of Seamen on the Royal Navy*, Edinburgh, 1717. This work was dedicated to Lord Raperath, under whom he had served at sea. Henry he repeats the conclusions of his first book with further information and suggestions on the means of prevention and cure of sea diseases, particularly

that of "Ship Fever" introduced by "pests," came into the Navy. This book went in three editions in English, the second edition in 1782, the third in 1774.

Included in the same volume as the third edition of the *Essay on the Health of Seamen* (London 1774) was a "Description of Fevers and Infections with New Observations on the Bad Temper and the Proper Methods of Preventing and Stopping its Effects."

A French edition appeared in 1776. This work describes fully measures of naval hygiene which should be practised in ships at sea, and includes directions for disinfecting and destruction of various, of filtering water through sand in casks or by using charcoal, of the wearing of special clothes by surgeons who attended to the sick, and the ventilation and disinfection of the sick berth. Before his day these matters received but scant attention except by a few enlightened commanders.

Boncompagni (1824) writes on this publication—"Opuscolo per la *Salute* delle *Uscie* di un *compartimento*" and this is the counterpart to the last great work, the *Treatise on the Fevers*. "L' *art* non maneggevole *di* *disinfectare* *le* *stanze*, *gli* *stipiti*, *gli* *arredi* *importanti* *di* *rendere* *un* *compartimento* *di* *buona* *salute*."

In 1783 there was published the *Two Papers on Fevers and Infections*. Duncan Goughlin (1864) opens his Volume II of *A History of Epidemics in Britain*, with an opinion quoted from Lind's Paper on Fevers [5] to the effect that a distinguished symptom of the writings of the former would be a valuable hint, and would bring forth treasures of knowledge and thus cultured that the technique of Epidemics and Infections would more clearly be perceived.

Of *typhus*, not much was known in the army and navy in the eighteenth century, and Lind stated that in 1755 in the Royal Corps among 500 of a ship's company the disease caused the deaths of four or five persons and only left one hundred persons unaffected. The outbreak early in the century was due to the fact that they escaped the disease in childhood, and so did not succumb to further attacks. Thus natural active immunity was recognized.

When Lind was at Harker he wrote in the "Observations upon the Fevers of the (Doctors)" which was presented at Portsmouth and Chiswick on the national occasion and was of epidemic severity. He states—"Now I would here I have observed three distempers to rage among the inhabitants and strangers and troops with an uncommon degree of mortality. While during the period of universal distress on land 18,000 men in ships at Spithead became unaffected with them" [5].

The epidemic methods to rid typhus from ships were often so successful that the ships too were destroyed in the process, as happened in many cases by fire caused by the use of mineral acids, the vapour being used as fumigants.

Less rigorous methods were tried such as the installation of various ventilation systems which fell in and out of favour rapidly. After a lead of several years in the works of Harker, where exhaust tubes for ventilation were erected on the hope of lowering the temperature of putrefying food, Lind (1864) quoted, concludes, "Experience must now have shown that ventilation will not remove infection from a ship" [6]. Lind showed Howard

in one of the yards at Helder a number of sailors with paid leisure who constructed the dunnage on board the ship from men who had been discharged from a prison in London. It appeared so unlikely that the ship could not put to sea and Land suggested that the "scurvy of rebellion to our Armies and Fleets are no doubtful." The point was often made the importance of a dunnage from there. It often proved fatal in equipping men on the basic equipment of a fleet. [8]

Simon (1889) stated that Land did give his approval to ventilation contrivances comprising the need to red shape, large-scale barracks and process of food air. The two most popular were the Helder Bellows (called "Lungs") a hand-operated mechanism which was supposed to both supply air to and exhaust it from a space to be ventilated, and the other was described by Samuel Boston in 1741 who demonstrated how the copper boiler in a ship could be adapted to clear the food air in the lower decks and holds of ships by heat convection currents. This was giving the popular name of "fire pipes" for heating stoves, it is told by Land [9] relating to Verina's paper, which had been stated in the *Slavers' Journal* for the East India. After a voyage of five months she arrived at the Cape of Good Hope without a sick man on board. All the good health was first ascribed to the "pipes" until it was found that by an error of the carpenter, the roof of the pipe had all the while been kept flat. One explanation of the absence of sickness was the adequate provision of a balanced dunnage.

In Land's *Practical on the Scurvy*, he considered fully the history, nature, cause, and cure for scurvy. The book contains a considerable chronology of but a limited time span of all writings on the subject from 1644. He credits the Dutch physician of Goede, Bouman (1664) for explaining oranges and lemons as a cure for scurvy, and in 1694 he noted that Sir R. Hawkins presented his crew on the *Swampy* from scurvy, by appreciation of the fact. In 1699 Commodore James Lancaster of the East India Company had success with oranges to the Cape, and we learn that under him originated the use of lemon juice. Woodell (1694) advocated lemon juice too, states Land. It is interesting to know that the Dutch had some sound formulations in the use of Scurviness as a prophylactic against scurvy. This was made from yellow or bluish dried fish and placed in a sack covered with oil and vinegar. The Dutch considered the substance had the same properties as oranges or lemon juice.

Trotter (1782) [7] is quoted by Ralston (1817), who states that while Trotter did not confuse over Land's view about a concentrated juice, he agreed with the use of fresh fruit for the same purpose.

It was Sir Gilbert Blane who in 1780, advocated Land's recommendation and was instrumental in 1780, on being appointed a Commissioner of the Dock and Warehouse, to cause an Admiralty Order to be issued which made the distribution and use of lemon juice compulsory.

The effect of this order was seen in an analysis of the sick returns from the Fleet and was of large-scale and in a month the annual average of the sick sick out to be red shape was halved.

In 1787 Earl Spencer First Lord of the Admiralty being at Portsmouth

visited Boston Hospital and asked to see a case of scurvy (18). "I told there was no man in the hospital in whom I saw."

There has been speculation from his writings by some that "Land" and the author of a brief sketch was related to picture Land as a "man of truth, loving and knowing space, perhaps with something of the easy 'back to his respect for rank and authority, but independent in his judgment and freedom in expressing his opinions." He always appears anxious to give full credit to the workers who had preceded him, and to large himself in the background, except when necessary, in order to his own expressions. He was evidently a man of extensive learning, but without pedantry. His style without literary pretence is simple and hard. (9)

It has been well said that the world knows nothing of its greatest men, and that is true of its foremost benefactors.

Land in the preface of the first volume of his *Treatise on the Scurvy*, writes: "During the last war scurvy proved a more destructive enemy and out of more valuable lives than the united efforts of the French and Spanish."

Land wrote this *Treatise* because of the great interest in the subject evoked by the narrative of the sufferings of Amasa's expedition, which began in 1780, and when four out of five of his ship's company were lost in the harrowing two years. The story is briefly told in Part II of this paper.

The same editorial writer refers to his words contained in the preface of the *Treatise* wherein Land states: "It was acknowledged that the best descriptions of it (scurvy) are met with in the accounts of the voyage, but it was suggested that there were the productions only of seamen, and that no physician conversant with the disease at sea had undertaken to throw light upon the subject and clear it from obscurity under which it had lain in the works of physicians who treated only on land." (4)

In his biography of the collected writings and thoughts on scurvy covering the period of 160 years, Land credits Bonneau with the statement that Dutch sailors had noted the benefits of fruit and vegetables on their cases of scurvy (probably by accident) when they observed an excellent effect when returning from Japan loaded with fruit, especially oranges, which were eaten by the affected seamen.

When Land's works were translated into French, his views were accepted by the medical profession throughout Europe, and as we now know, it was a year after his death that his teachings became established in him as a country.

Though the use of lemon in food gave us an antiscorbutic measure had been practiced for some two centuries before he knew it is surely to Land's credit that when recognizing its value from practical application rather than mere theoretical knowledge, he drove vigorously for its wholesale adoption in combating scurvy.

Belliveau (1817) believed that the reason for the loss of Land, appeared now only by a few historians, is due to his measures of preventive such as and particularly the methods leading to the eradication of scurvy in the Navy by 1795, later in the Merchant Navy, and even yet later to the eradication of leprosy caused by the disease in certain life. This may well be contrasted with the

treasures towards health, by recorded much credit to his statistical method as of the management combined in disease. But the only merit that we can ascribe to his method, whether written or spoken, is that it is what can be done, that is the only circumstance - not the scientific aspect of the case.

Physicians and practitioners who wish why, I and I sympathize with them and follow until they can give us better. One can best reason to the records of other countries, or sporting countries, or get up on the minds of human good men, and published in their works. If a nation has the elements of bad doctors, it will no doubt, be quickly taken in good men and those rapidly, and though for a short period, in the end, it is clearly into obscurity. If a country has bad men, it will show itself to its readers and subject workers, and really take itself for a century or so, and then, when a new man can prove the public, recognize the two true means as an inferior background to the accepted and current local path and prejudice, and a powerful personality produces a revolution in an order or a law, affecting the procedure of the community—and then the general good is proclaimed and wide, and the new movement progresses, which will be most evident in the general economy, but a national credit over his work or grace, and his name recorded in the Dictionary of National Biography, and all is considered concluded.

Another part of the story of the past is seen in the story of disease and treatment, and all things yet to be observed, and his effort for a complete participation of truth.

We reason on, with the appointment of Lind as Physician to Harker, which was agreed to by the Commissioners for the North and West Board, on the 14th May, 1716 (12).

The entire result, whether we have thought fit to establish a Physician to the North and West Board at Harker, and to support the James Lind of whom we have received good testimony to that employment, shows are therefore to direct and require you to make him, the said Dr. James Lind, to be retained Physician of the said Hospital, accordingly, to hold the said place, and to attend the duties of his branch, for a year, for his care and trouble thereon, until he has order.

The three members of the Board were William Kay, Mr. Hunter and Adolphus Forbes. It was often the case that Andrew Lord was offered as one of the three members of the Board, but was not present on this occasion.

Physicians to Naval and Hospital were appointed differently from those to the Fleet, and were not recruited immediately from those physicians who served in the Fleet. This method of selection was followed in 1716 by an order of Council which decreed that Naval and Hospital appointments should be held only by those who served in the public service abroad.

In a letter to the President of the Royal College of Physicians, Edinburgh, after his appointment as Physician to the Royal Hospital, Harker, on 12th May 1716, Lind described his first impression of staff and organization. It is quoted in "Sturgeson" (13a).

THE HOSPITAL

The Hospital is a large building, situated in the heart of the city, and is one of the most important institutions in the country. It is a place where the sick and the suffering find relief and comfort, and where the most skilled and experienced medical men and women are to be found.

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THE HOSPITAL

I have left the management of the Hospital to the hands of the most skilled and experienced medical men and women, and I have left the management of the Hospital to the hands of the most skilled and experienced medical men and women, and I have left the management of the Hospital to the hands of the most skilled and experienced medical men and women.

suggested that *Agave* spp. might be associated with increased mortality rates in the study on reforestation in the Yucatán. However, no significant association was found between *Agave* spp. and the frequency of attacks by *A. tritaeniorhynchus*. The trend to have a higher frequency of attacks on the most fertile and the smallest of the studied *Agave* spp. (especially *Agave salmiana*) indicates a decrease in the damage that beets inflict on mature plants of the *Agave* genus [16]. This pattern may indicate an influence of the size of the individual components of the diversity. More precisely, it could indicate a decrease in the damage inflicted by *A. tritaeniorhynchus* on the smallest *Agave* spp. (Table 1). The data also indicated that the most damage was by the species *A. tritaeniorhynchus* [16] in the studied area (Table 2), and hence from the perspective of the species diversity of the studied area, the damage was caused by different species, a result of the high diversity of the forest.

There were two French literature at the end of the 19th and Roussier (1934) wrote, for example, that people have shifted over the centuries the more strongly negative attitude to French and its civilization, culture.

Tropics remained (1984). The Institute for Policy Studies, a conservative think tank, has reported that the current health situation

Thomson (1986) is an 1700 page, 15 inch by 10 inch, multi-colored atlas of natural numbers.

Johnson (1947) stated that Chubbuck had a "colored" system by H.W.'s (Robert) or J.W.'s (grand) land records, depicting the land previously owned by his grandfathers of heart and called him "Chubbuck's land."

Toni was regarded highly by her mother. It was she who respected the late gentle and unassuming mother, and shared in her husband's activities.

Thompson (1990) [1] is anthropomorphic (often in error), but this is very of his genre. Among the oddities, which have appeared in the series, is

From an artistic point of view, the picture is not unimpeachable. The final stands somewhat—instead of appearing to rise—where I first read it, to a comparatively narrow thing in width of water in the distance, and to have entirely exhausted the subject. But notwithstanding the high satisfaction on which that work was, and still is, most decidedly commendable for itself, and many patients have long since appeared with it from a variety of causes, and to which it is in general attributed to the perfection of the work, and the nature of the work.

Two rather thin water veins in the central basin: held for 15 min using
slip and.

It was Lund who depicted the history of his "Fragrances where writings hold sway on the subject of scents, and which was unfolding." Lund himself thought and thought much, pleased from materials on the subject to bring the perfume that contained, and by his own taste, which were supported by his experience of use and in hospitals, presupposed that green vegetables and fresh fruits were not the whole prescription for the prevention of the disease. It is not generally appreciated that he considered as exceedingly dangerous and generally depressing of spirits, as affecting persons which could be considered as the source of success.

Madison (1820) says of the young ship his teachers did not give him to moderate changes in official procedure: "owing in part due to Lord's [sic] long of domestic and social manners, in others his own, in those in authority."

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(Part II will appear in the next issue of the Journal.)

RADIOTHERAPY IN THE ROYAL NAVY

Superintendent D. R. F. BERTHAM, *R.N.*

From first X-ray therapy unit to be operated in a Royal Naval Hospital was that installed in the R.N. Auxiliary Hospital, Maresfield in 1942. Prior to this date a certain amount of superficial X-ray therapy was administered to skin cases by permanent radiologists using diagnostic equipment and measuring dosage by means of the Parlett method. The number of cases so treated was somewhat small and there was little or no continuity of treatment.

depending as it did on the personal status of the more successful radiologists. Indeed cases in which X-ray therapy was regarded as specific treatment were usually referred to the nearest civilian centre where such treatment could be obtained. The primary reason for the establishment of the unit at Portsmouth was the treatment of leukaemia, a considerable number of such cases developing, as a result of the leukaemia which bears such a large proportion of the casualties in certain naval services. The fact that only a limited number of such cases were treated at the hospital did not lessen the value of the X-ray therapy unit which was intended to cover a wide field of cases of all descriptions. A table of such cases will be found later in this article. The object of which is to indicate the types of cases which may be suitably treated by superficial or radium X-ray therapy.

Following the trial case of the first 500 cases, a comprehensive article of a similar nature was published in the journal in April, 1945 and much that was written then holds good to this day though the experience gained in the intervening years has modified some of the opinions expressed therein.

The unit described is of course not capable of the production of medium and superficial roentgens and therefore cases of malignant tumours and allied conditions e.g. lymphadenoma are not most suitably treated to be referred for treatment to the consultant in radiotherapy at the Navy. Presumably it has been suggested that a high voltage unit should be installed and operated within the service but this involving objections on weight the doubtful benefits of such a provision having regard to the comparison case with which high voltage therapy can be obtained when necessary in a civil hospital.

A unit of similar type is installed in the Royal Naval Hospital at Plymouth in 1940 and has performed reliable work mainly in the treatment of superficial conditions and it is the opinion of the author that the installation of a third unit at Chatham would be a valuable asset to naval medicine. Progress continues however limited this supply at the present time but the recent removal of the X-ray therapy plant from Bournemouth to the Royal Naval Hospital, Portsmouth has increased its available which is evident in the increasing number of cases being referred for treatment. There does not permit of the collection and publication of the number of cases treated at Portsmouth.

TYPE OF UNIT

The type of unit employed is a Victor Kx. 10 model tube with a Decca transformer and control cabinet. The tube is most reliable and to date has been operated for 1182 hours without a failure which indicates a high degree of efficiency. It is this type of tube which is used for numerous radiographies e.g. the examination of metals requiring very long exposures. Cooling is by oil immersion and a circulating water system around the anode. The unit is controlled in three intervals with appropriate filtration screens.

20 kv. No filter

40 kv. 1 mm aluminium

100 kv. 0.5 mm copper + 1 mm aluminium

The degree of filtration and provides a maximum exposure against 4 in.

efflux cap. As a general rule a total dose not exceeding 1,000 r is given to a cow or heifer during one or a period up to one month and up to 1,000 r to the heifer over a period of six years. It is not proposed to make individual comparisons of the effect of the dose and quality of individual cows as, upon changes to these factors it first affect the general principles but while under treatment, the cow should not be subjected to weights or to prolonged movements in water or other liquids. Similar cautions should be discontinued and only safe and safe preparations used as pellets and to prevent draughts of the skin. Persons undergoing high voltage therapy are forbidden to wash the area under treatment, which are treated daily by alcohol or a similar application.

Dose.—This is now measured in röntgens, symbolized by R , which is an international measurement depending on the emission of a measured quantity of Co and is recorded by an instrument known as a dosimeter. Previously the Röntgen method was used, which depends on the heating of a prepared layer and subsequent comparison with a standard plate. The second error in comparison by a number of individuals may be as much as 50 per cent. As an error in charge measurement is obviously essential the method is only considered to be accurate in the case of the dosimeter.

The dosage used with the cow under water and three measured as air and, owing to back scatter, are increased on the skin area as much as 50 per cent. in each field treatment—a point which has to be remembered by those responsible for prescribing treatment, i.e. the radiologist or the radiologist.

Concomitant Irritation of Skin

Skin and Circulation.—Three daily treatments, an increasing dose of Tb at 100 kV (followed) and produce relief of pain and early inflammation in such cases.

Prevention and of skin.—It is important to maintain any general or local water bath treatment is necessary. The surface treatment usually adopted in the administration of these doses of Tb at 100 kV using a distance of 20 cm. No further precautions should be given even if the condition is not cured in view of possible unpleasant results. Some workers have suggested examination of the neural nerve roots but this has not been found to be a reliable method by the author.

Pain.—Much international correspondence has appeared recently to the medical journals regarding the X-ray treatment of cancer in and on showing the practice and showing the real results which can, have to be corrected by the plastic surgeon. Showing the treatment of cancer, cases of all types the author wishes to state that in his opinion X-ray therapy in the aspects of cases of bone cancer is the best method for cure. Two methods are presented using 100 kV with distance 20 cm.

- (1) a single dose of 2,000 r - 4,000 r to a carefully shielded area
- or (2) treatment by fractional dosage of 500 r - 1,000 r over a two working treatment of 2,000 r or less. Prior to treatment the removed a charged area, be required to ensure adequate surrounding or covering skin. It is probable that the best results especially now are due within to even

evaluation, the use of the liver is held, or the evaluation of a case which is not a true virus. Thus, if the latter type are often subject for treatment and either the process of a virus is clearly established. Some treatment is not indicated. Following the evaluation of the numerous drugs stated above, on further evaluation should be administered in the same way as was subsequent data.

Epiglottitis. Epiglottitis, and a case are common in response to a virus, in a case they are first treated by the disease, followed by a few weeks of rest of the virus as soon as possible while the patient is in the hospital.

Relief.—The treatment of the virus is given, as well. (1) If the virus is present, only a single dose sufficient to produce a mild infection in the blood. This virus directly in the tissue of the virus is the body. (2) If the technique is adopted, local bleeding of the surrounding healthy area is essential. (3) The usual dosage of 200 cc. (200 cc.) is given in the form of a fluid of a total of 200 cc. (200 cc.). This gives the type of the patient the dosage required. The usual case is like (differently) that a lower dosage is also, as in the case of a virus, e.g. in the.

Preoperative evaluation in an area which may become infected is an advantage, the whole area of the virus and volume being given 200 cc. (200 cc.) in the weeks preceding operation and a number of days to the day of the virus after the removal of the virus.

Jaundice (Liver Disease).—A recent communication by the author on this subject has been published in the last issue of the Journal in which the good results obtained in the treatment of the condition are discussed. The most satisfactory treatment has been found to be the administration of treated dosage of 50 cc. over a long period, with periodic intervals (interim course of treatment). A treatment total of 1,000 cc. being given at 140 cc. (140 cc.) over a period of approximately one month, intervals of one month being allowed between courses of up to 200 cc. each.

Symptoms (Jaundice).—Twenty-two cases have been treated with most encouraging results. The patients have become pale and clinical tests indicate a limitation of the disease. Any established pathology will of course remain, but in most of the cases by the course of treatment is a great step forward. The fractional method, established by the late Dr. William Scott, is used as preference in the latter, dosage administered by some writers, as it is considered that better results with less upon in the patient are thereby achieved. Some cases of radiation sickness and nausea do occur in the treatment of the condition, and vitamin B₁₂ (whereas known as pernicious) has been found to be an excellent antibiotic given twice daily in doses of 20 mg. for a few days.

Chromophore and Other Disease.—A few cases of chronic chromophore have been treated with possible improvement. The highest laboratory should be used (e.g. 140 cc.) and treatment repeated with care in long period. The response in case of chronic disease has not been as encouraging.

Superficial Treatment.—Good results are reported from the United States of America, especially in such or subacute cases, in such a history of

For example, in the case of a linear model, the maximum likelihood estimate of the parameters will be unbiased if the treatment assignment mechanism is independent of the value of X in the population that supplies the data.

As expected, the different sets have been obtained in the same order: the α -halogenoalkyls in 1961, in 1962, in 1963, followed by the dihalogenoalkyls in 1964, in 1965, and finally the trihalogenoalkyls in 1966, in 1967, and in 1968. A new series of fluorine trihalogenoalkyls was synthesized in 1969: the trihalogenoalkyls that were the halogen trihalogenoalkyls, trihalogenoalkyls for the first time. The most highly fluorinated compound obtained is perchloroethane, then the fluoro-

Analysis of Use.—Only two cases have been treated. It is the opinion of the author that the relatively large variations in such data (distance, etc.) which have been made in the task of changing to another eye (eye) in a pair of hands and design is given to prevent a measure of the use. Cases which therefore, is referred to a column in which it occurs.

[illegible]

The question is therefore, asked—Does class X, *vis.* *Theraps*, cut its teeth and such a condition? and the question is not without an answer. It has been already shown on the foundation of embryonic theories that before the process of dentition had more subsided in X, on a skin than which we now show, the more primitive type of growth appeared most readily in X, *vis.* *Theraps*. This phenomenon would also account for the relative voracity of the class, as well as its predilection for the epithelium to more sensitive than that of the classes mentioned.

There is no doubt that the small doses of Δ were which brought about the above decrease are by improving the mechanism and enhancing retention of the information that is not being processed to its full place. The speed of processing in cases of non-aligning speechless is more difficult to understand exactly, because the methodology is still doubtful, but the fact that such an effect does take place is not undeniably. It becomes, however, more or less obvious to present such an effect above alignment, it is likely to say one-time a better effect is created. In the Δ system the initial sequence is addition to the level improvement in the initial words.

References and Further Reading

Results: The effects of these conditions were investigated as follows:

Asphyxiant—Fruitless of the idea diffused by popularization as the product of interpopulation. There is no parallel from the treatment of deep seated malignant disease where first surgery must be utilized and. Populations alone may result in more limited cause being present e.g. spontaneous tuberculosis, schistosomiasis (1, 2nd part) being replaced by more subtle or arguments, rather the overall period and treatment is a really increased.

4. *Iteration*—This step must be repeated by entering new values for μ and σ until the program has produced a list of data.

Temple Run (Oregon)—There are often considered to be four red ones.

may be suggested at a later date when a year or so later, by the production of a chronic, non-healing ulcer following surgical lesions to the nose.

Epithelioma.—This was a common occupational disease in such workers during the war-time at Esbjerg, himself, and was usually seen in the bridge. It was, in an and month in cases of severe irritation following over irradiation.

Symptoms

A brief history of the advent of radium and rapidity of X-ray therapy in a Royal Navy has been presented with special reference to the work carried out by one of the two units at present operating. A summary of cases treated, together with special features regarding certain types of cases, has been presented in the hope that it may be of help to medical officers in selecting cases for this type of treatment. Some comments regarding the biological effect of X-rays and the changes which may result from over irradiation have been briefly discussed.

PHYSIOLOGICAL PROBLEMS IN SHORT-FITTED SUBMARINES

II.

Surgeon Lieutenant-Commander W. M. BATHSON, R.N.

Since the British adaptation of the German Schachtel which in turn was developed from the device fitted to submarines of the Royal Netherlands Navy. These were captured by the Germans in 1941. In the concluding stages of the war it was the Germans used this device on a large scale—no doubt precipitated by the necessity of remaining submerged in order to avoid radar detection and consequent attack. Although no German reports of physiological effects have come to light, three years of the practicality of using the Schachtel and it has been reported that a U-boat made a successful attack against Allied shipping after being submerged for twenty days.

The operational use of the apnea, which is termed *apnoea*, enables the submarine to run on main diesel engines while submerged at periscope depth. The vessel used is a large tube, normally, hoisted into horizontal position along the casing and when in that position it is a free float—no water can enter and pressure inside and outside are equal. In order to permit the vessel to rise to its vertical position, drawn free of water and so then ready for use. The vessel is made of two hollow tubes connecting the conical air with the needs of the submarine. One tube 8 in. in diameter takes fresh air into the submarine and through the other 5 in. in diameter exhaust gases from the engines are discharged. Normally, no water can, the exhaust is 2 feet under water and the intake 2 feet above water. If in rough seas or through bad depth keeping the vessel head dips below water the air intake (intake) is closed by the operation of a float valve and water is prevented from entering and sea water which does not enter the submarine is trapped and prevented from entering the exhaust. When the diesel engines are started, oxygen becomes the carbon

can be obtained by drawing in the air in the column in which there is no pressure head, the high tide noise. As this happens, air is drawn down the vent collector, and when the pressure difference allows, the same quantity of air to enter the tank as the engines are using, a standing fall in pressure is produced. The faster the engine speed the greater will be the demand for air and therefore the lower the pressure—at this speed on one engine this fall will be less than 1 in. Hg. while at high speed on two engines it will be over 4 in. Hg. The entrance of air through the vent induction is purely a function of the difference in pressure and no mechanical means are used. The air can either be delivered through trunking to the fore and aft of the engine room or through the ship's ventilation system. In the latter method considerable draughts are created and inevitably some water gets across to the induction system. As this is not very practical delivery direct to the engine room is the normal method employed. By this means the full benefit of the fresh air for ventilation is not gained so that both these methods have their own faults. It must be remembered that the present emergency ventilators were not designed so much for the motor as addition to existing restrictions, and these effects are part of the testing trouble. Improvements enabling more fresh air to be used for ventilation without causing draughts are now under consideration.

We have seen that when starting there is always a decrease in pressure inside the submarine and therefore the first physiological problem is similar to that encountered when ascending in an aeroplane. As the pressure falls the partial pressure of oxygen also falls and the degree of anaemia must be considered as a factor governing the efficiency of the crew. As an aeroplane climbs oxygen is breathed by the crew at heights greater than 20,000 feet, but as yet there is not provided an substitute for oxygen anaemia and therefore the level of anaemia is controlled by limiting the pressure fall. Originally, this limiting fall was 8 in. Hg. but as the important factor is the actual pressure and the fall in pressure it is hoped that in the near future the limiting pressure will be an actual pressure of 24 in. Hg. If a 6 in. Hg. fall in pressure is the limiting factor then the actual pressure varies according to the atmosphere, pressure e.g. if atmospheric pressure is 30 in. Hg. then the actual pressure limit is 24 in. Hg. (degree vacuum equivalent to 15.1 per cent. of 1 atmosphere) whereas if 20 in. Hg. is actual pressure of 26 in. Hg. is the limit (degree vacuum equivalent to 34 per cent. of 1 atmosphere). A pressure of 24 in. Hg. will give an oxygen tension of 4.4 in. Hg. which is equivalent to 16.7 per cent. of 1 atmosphere. 24 in. Hg. represents a height of 5,500 feet, and although the oxygen small compared to the height of 40,000 feet for aircraft, it must be remembered that time is an important factor in the onset of the effects of anaemia and hypoxaemia as it operates for days or weeks, or even the limit. There is evidence to show that some people will be affected by breathing 16 per cent. of 1 atmosphere oxygen, and this figure shows that the limit of 24 in. does not cut too much on the safe side. Provided this limit is observed the resultant anaemia will have no deleterious effect on the efficiency of the crew. There is one situation in which the anaemia produced by starting requires special attention. Following a long deep dive with the tank closed down the oxygen percentage in the tank will

for lowered and kept for 10 per cent. of 1 atmosphere or less, and if shuttling is commenced at high speed producing a pressure of 24 in. Hg, so the least the work of ascent is only 10 in. in the oxygen treatment, but no less as 4 in. Hg corresponds to 10 per cent. of 1 atmosphere. This low pressure would only be of short duration since the oxygen percentage gradually returns to normal as the least becomes exhausted. The full conditions of the least takes approximately one hour with water metabolism on the oxygen room or half an hour on dry ventilation system.

The effect of oxygen on night vision must be considered during night running. It is now accepted that short exposures to less than 10 per cent. oxygen will definitely have a deleterious effect on night vision but on the fifth month this has done on the effect of a long standing exercise on night vision. The coast patrol on America has shown that after twenty five hours of which is night vision tests give similar results to those that at ground level—no demands of vision tests have yet been received in this country. Tests carried out on divers on a coast patrol showed no deterioration in night vision when swimming but none of us are required to have definite conditions can be shown and at present during the hours of darkness the pressure is limited to 20 in. Hg.

As already described, to prevent water from entering when the snort head dips, the snort induction is closed by a float valve. While this valve is closed air can only enter the submersor and once the engines are still running there is a slight fall in pressure inside the boat. When the valve reopens the pressure increases and gradually returns to the standing pressure. If the snort head dips frequently as is enough was, the pressure inside the submersor alters with each opening and closing of the induction valve. This causes similar changes in pressure in the middle ear and hence of the ears. On account of the possibility of these fluctuations causing pain and tension it is accepted to enclose ears with wax and middle ear drainage and to ensure that the induction test is positive in each ear. Provided these precautions are taken, there is no evidence clinical or otherwise to show that working causes any permanent damage to hearing. In some cases hearing was registered at least temporarily under these conditions. This improvement was possibly due to eustachian massage. In the restricted stage of the common cold most men have difficulty in clearing their ear due to partial blocking of a Eustachian tube. In these cases mouth inhalations have proved of great value. It has often been assumed that men when working would present a good problem with pressure.

Men might never without their knowledge and without means or time be realized be pain. This would lead to disturbed sleep during sleep and loss of efficiency. During a coast patrol however a crew were subjected to frequent pressure fluctuations of 1 to 12 in. for five nights and no one who awakened nor showed any ear drainage or clinical recognition. It would appear that either the men cleared their ears while sleeping or else the pressure changes were not of sufficient magnitude and rate to cause trouble.

After running small percentages up to 0.2 of carbon dioxide have been detected within the submersor. 0.2 per cent. is higher than that is considered for H.M. ships and is greatly in excess of that allowed in industry. With

difficulties of using such data are—this, therefore, is probably better suited to a more sophisticated level.

It is intended to present personal views of such low scientific as measured when compared to the C.I.T.C.

(1) Since this is already used the program followed up this together with appropriate statistical procedures, be referred to the text—this is only, liable to occur with a density view.

(2) With the usual kind of the relevant groups are being found, not required the use procedure is a kind of analysis is all upon the relevant system. When this happens, values are being found, but into the system are in the value category is.

So far there is no evidence to show that dangerous (or a situation) is present but the method used to obtain samples is not a simple statistical one, but rather a working apparatus is being developed and working, and the system is all classes of such kind of substances, especially in the field of the effect of control.

There are various other problems, which are all with the use of the system and have to be attempted, has been made to discuss briefly the means planned and the time involved in carrying

MEDICAL ASPECTS OF ATOMIC WARFARE*

BY

Surgeon-Commander G. B. WOOD, R.N.

Although I have believed my remarks, "Medical Aspects of Atomic Warfare," I cannot help thinking that at the time of writing these remarks in light of the long term effects of radiation will be a necessary part of the making up of more medical postulates, even if atomic weapons are never used again.

During the last few years nuclear warheads of an entirely powerful nature have been taking place in many parts of the world, and looking the operations of two major poles at Harvard and elsewhere, and other considerable numbers of several other institutions. The indications are that this effort industry is likely to prove much bigger in the future.

One of the most important applications of such knowledge is the production of radiating isotopes. Radiating isotopes are already being used on a

*A lecture given to the West Midlands Branch of the B.M.A. at Liding in 1950 and in November 1951.

large is that of evidence in all kinds of instances, and especially. No one is sure in what order they will be called upon to appear in the future or how they appear will be taken up.

Another application of the principle of the position taken in the future is the production of pressure. However, one cannot immediately say that without first for every individual that, the signs of radiation include pressure changes from the fusion of masses, or rather combinations and helps to take them apart.

The present state of education of the people has enhanced all nuclear activities with a sort of magical significance so that all kinds of the whether real or imaginary, may be attributed to these activities. Since this radiation is by no means confined to the immediate neighborhood of the nucleus almost any phenomenon may be called upon to represent its presence and in order to do so he must understand the capabilities of the radiation involved.

ATOMIC WEAPONS

The atomic bomb produces cascades, through blast, heat, shock, ionization of gases and radiation. As I have no reason to suppose that there is anything I can tell you about the last three I propose to confine my attention to the effects of radiation.

The effects of the bomb differ widely according to where the explosion takes place. The high air burst, which is considered to be most likely to be used was seen at Hiroshima, Nagasaki and Bikini. Here the blast heat and immediate radiation were minimal. The amount of radioactive substances deposited in the neighborhood, is perhaps large but is still a very negligible.

The water burst was studied at Bikini. Here considerable structural damage was caused by under water blast, but air blast, heat and immediate radiation were very much less than from the high air burst. On the other hand water was splashed about as in a very large sea and that water contained all the fission products formed by the splitting of atoms in the bomb. These fission products include over thirty different elements of which the majority are radioactive and some take centuries to decay. The result is that an area contaminated by radioactive water from an under water burst is likely to be radiating for a very long time. Some of the largest ships used at Bikini were sunk because they were found to be still active at the end of a year in spite of all efforts to decontaminate them.

A possible third kind of attack is the low air burst which was used in the first experiment at Algora in New Mexico. This is most expected to be in future because in the other two but it may well occur by accident. It would include all the effects of the high burst, though they would not cause such a large area, combined with a limited amount of deposited radioactivity since a portion of the fission products would be driven down to earth instead of carried up to the stratosphere and later slowly deposited.

If we consider the radiation effects of the high air burst we need only pay attention to them due to gamma rays. The radiation from an exploding bomb

except at alpha and beta particles, neutrons, gamma rays and disintegration others but with the exception of gamma rays there are all of such short range that anyone exposed to their influence would certainly be killed by other means. Gamma rays, which for practical purposes are identical with x-rays, penetrate X-rays can travel long distances in air. Their concentration from the atomic bomb is such that anyone exposed to them at less than about three quarters of a mile would be unlikely to survive, while noticeable effects might be found at twice that distance. If some form of protection, such as a building, were interposed the corresponding distances would be less. If an improved form of bomb were used, as the Americans claim to have done at Nagasaki, this would probably be greater.

The actual means by which radiations damage the body are not fully understood, but it will be sufficient for our purposes if we say that it is through the liberation of ions in the tissues. One of the most characteristic properties of gamma rays is its ionising and stopping power which they possess. If it were not for their penetration could not be determined. Now the formation of an atom leads to the decomposition of a molecule of which it forms a part we can understand how a gamma ray passing through the body leaves a trail of destructive ionisation. The effect is instantaneous and any change produced must not be detected for some time.

First the decomposition of protein molecules in the tissues, deprives us of their services and gives rise to a number of breakdown products, some of which are toxic. This we can explain the manifestation of symptoms which has been observed experimentally, and the shock-like symptoms and vomiting which have occurred within an hour or so of heavy radiation both in human casualties and in experimental animals.

Secondly, there is good experimental evidence that an ionising particle or ray passing through the substance of a chromosome can break it at the point of passage. Such broken chromosomes tend to heal in a short time, but if there are more broken ends in the same place the wrong parts may join up. Naturally, the less of the radiation the more broken ends there will be. If a chromosome is broken it appears that the two ends can function again well unless the cell starts to divide. When division occurs the fragments fail to reach their appointed places. There is a serious disturbance in the chromosomal complement of the daughter cells which are usually sterile.

From these considerations, certain important consequences emerge:

(1) Tissues composed of cells which are actively dividing, such as blood forming organs, gonads and mucous membranes, are much more radiosensitive than those where cells have ceased to divide, such as nerve and muscle.

(2) There is usually a latent period of some days between the radiation and the signs of acute organ damage. This latent period represents the time taken for the bulk of the damaged cells to divide.

(3) A single large dose of radiation is much more dangerous than the same amount spread over a longer time or taken in divided doses. In period of fast

an X-ray, another man, during his life career, without any ill effects about twice the amount of radiation needed to kill him if he received it in a single dose.

CHANGES IN THE BODY

The most sensitive tissues in the body are: (1) Blood-forming organs, (2) Gonads, (3) Digestive-intestinal epithelium, (4) Skin.

The symptoms of acute irradiation are very much what one would expect from damage to these organs. The rest of the body is very much less sensitive and is unlikely to be seriously damaged by a single dose.

HEMATOPOIETIC SYSTEM

The changes in the hematopoietic system include: Decrease in red blood cells and plasma proteins; altered sedimentation rate; increased clotting time.

The cells are diminished in the order: Erythrocytes, granulocytes, platelets, actually. The Erythrocytes begin to fall within a few hours and reach a minimum in four to five days after which recovery begins but may not be complete for many months.

As the Erythrocytes begin to recover, the granulocytes begin to fall, reaching a minimum in about one day. Platelets fall from twelve to fifteen days and red cells from seventeen to twenty days. The lowest figure for the first three is, by about a tenth of the normal value and for red cells about a fifth. The worst figure is the same order as the original fall but may be delayed for a week or more.

The sedimentation rate soon after a week, being due at least to changes in the plasma proteins and later to the anemia.

Clotting time is also increased after a week. This is not due so much to deterioration of platelets as to the liberation of a heparin-like substance. In experimental animals the platelets can be restored by transfusion but this does not affect the clotting time. On the other hand the clotting time can be restored by giving long chains of blue dextran which is combined with and thus inactivates heparin.

The symptoms are just as one would expect. In the first four weeks, come the hematopoietic symptoms including infections such as Ludwig's angina and gonorrhea, septicaemia, and abscesses of the mouth as seen in aplastic anemia.

Those who survive for a month or so may live a lifetime with red counts as low as one million.

There are no hair falls, hemorrhages other than a rare or absent from petechiae in severe hemorrhages from vascular infarcts.

Effects on Gonads—The probability is that the amount of a body's body radiation needed to sterelize a man permanently, greatly exceeds the lethal dose. For a woman it is probably in the same order as the lethal dose. It seems unlikely, therefore, that a woman who survives an atomic explosion will be permanently sterile through a woman's test. In Japan, many men within a mile and a half of the bomb suffered from loss of potency and loss of libido and many women at or from greater distance had miscarriages, being for many months after the

normal period. So far as I know, these are the only recorded instances of cholera both pure and mixed, occurring completely within one.

Learning to Recognize Symptoms

Here the pathological findings are again from patients with a duration of the various symptoms more marked in the one stage than the previous. The symptoms are vomiting on the first day after vomiting after a brief interval when there must be diarrhoea or a shower of mucus there is collapse, falling and lying towards the end of the first week, diarrhoea first water, then creamy.

Old Surgeon.—Borthwick does not mean following people with previous cholera except in the most severe cases, in which constant change which was the syndrome there is much better than the better done. When cholera is found after an intense epidemic it is usually due to haemorrhage and to cholera. What was found with great regularity in the Japanese cases was quinine, then followed the pattern of ordinary cholera, being more common in the tropical and peroral regions, less so in the tropical and in the tropical and in the quinine and in the tropical. Epidemic began in the second week and there was where it did not occur in the end of the week, usually about a week or so. The cholera was not permanent, and during the week, about a week, made re-appearance within four months.

Foot.—There cannot be related to any particular symptom that it was found with great regularity in some cases, starting symptoms, as early as the first week, sometimes not until the fourth. The temperature sometimes rose above 101° F. (38° C.). The rather the temperature rose the more severe the symptoms and the more the progress.

Course of Death from Cholera.—Both in human patients and in experiments with animals, death occurred in a number of periods, usually about a day or two.

First at five to ten, eight hours, death resulted in a shock-like symptoms, possibly the effect of toxin, then died by, means from collapse. At the next point it about five to fifteen days, the second stage was probably one of more specific because the toxin being due to toxin breakdown, released of blood and cellular fluids which were allowed to furnish by the decomposition of the body, defecation. Finally death occurred, occurred in the same six days after thirty to thirty days, being in the stage of recuperation of the body during the stage.

Course of Illness.—After heavy outbreaks the onset symptoms are common vomiting, diarrhoea, prostration, vomiting and incontinence. The initial stage may follow immediately, but more often the initial symptoms pass off after a few hours, and the patient may feel quite well until the onset of the next stage some days or a week later.

P. V. LeBar (Medical aspects of Typhoid Cholera Epidemic, *Journal American Medical Ass.* August 1931) gives a list of the most important symptoms with time of onset.

Symptoms	Time of onset	
	Most severe Day of beginning	100% recovery Day of beginning
Vomiting	2-7	4-7
Diarrhoea	2-7	4-7
Fever	2-7	14-20
Loss of appetite	1-7	7-20
Weakness	4-7	14-20
Headache	—	7-14
Stiffness of joints	—	7-14
Stiffness of muscles	—	7-14
Stiffness	4-10	14-20

This table gives a satisfactory picture of the whole course of the illness and also emphasizes the fact that those patients who are likely to recover do not develop serious symptoms for several days.

TREATMENT

No first aid treatment is indicated for patients admitted apart from the other injuries they may have received. In order that they may receive adequate treatment they must be admitted to hospital, which will be made easier by the long latent period before the appearance of the symptoms.

In the event of an intense attack it is likely that the casualties will number many thousands. The advice that if an attempt is made to treat them all, they will all be treated inadequately and many lives will be lost, which might be saved by a substitute of care.

There will always be a certain number for whom nothing can be done. These should receive no treatment beyond what is necessary for the relief of their symptoms. If some may well be treated, injured and will recover without treatment. The main effort must be directed to those better-luck cases who may recover with complete legislation but not otherwise.

As prophylaxis, perhaps I would suggest the following:

(1) Fever beginning in the first four days with a step-like rise of temperature means a very bad prognosis.

(2) A fall in the temperature to not below about 100 per cent on the first day means there is almost no hope of recovery, whereas a count above 100 on the third day probably means that the injury is trivial.

(3) Vomiting and bloody diarrhoea on the first day means a bad prognosis.

(4) No symptoms after three weeks means that the patient will probably survive.

Treatment should be designed to combat the following conditions: Shock. Dehydration of blood cells. Distention of blood proteins. Increased clotting time. Damage to gastric intestinal mucosa. Infection.

Shock should be treated as ordinary but though I would like to give a word of warning which may turn out to be unnecessary. The skin after radiotherapy is extremely susceptible to heat and if heat is subjected it would be best to avoid hot water bottles.

Blood clots are best treated by whole blood transfusion but as a patient may need a pint a day, in the most severe phase it is certain that there will not be enough blood. In that case direct plasma is the next best thing and

is useful in its own right for restoring the blood protein level. The amount needed should be checked by frequent blood counts and protein estimations if the laboratory can cope with them. Blood substitutes in the form of various sugar solutions may be necessary.

Plasma substitutes have not been found of much value.

Transfusions do not affect the clotting time or the haemorrhagic tendency but, though the evidence on this point is not complete, sodium citrate or potassium may be useful.

There is nothing fresh about the treatment of various conditions other than

large doses of penicillin of the order of a million units a day, should be given to guard against infection. Streptomycin if obtainable may also be used.

Other aids to treatment may include vitamin preparations such as pyridoxin and folic acid and also yarrow.

Probably antibiotics and antiseptics will be necessary at some time.

The avoidance of transfusion may be countered up as moving blood or blood substitutes and penicillin.

INTERNAL EXAMINE

If a patient makes an apparently complete recovery from a heavy dose of radiation it must not be assumed that he is permanently well. New growths in various parts of the body may be the expected after a long and often a very small number of years. Such complications have not yet been found in Japanese patients so far as I know but it will be some years before the danger can be finally assessed.

INTERNAL RADIATION EXAMINATIONS

Apart from the immediate acute radiation from the high or lower air dose, there is exposure with the same element, effects on people working in areas which have been contaminated by an under water explosion—by the dropping of atomic products from some war vehicle or a rocket. If such an area were very heavily contaminated, it would have to be abandoned but if the contamination were light and the work important, the risk might be accepted. Alternatively it might not be known that there was any contamination and some damage has been done.

It is generally accepted that a daily, whole body exposure to about 1 R increases the life expectancy to an indefinite time. At about five to three times that dose only a few specially susceptible people might suffer from some degree of leukaemia. At doses below around 0.5 per day more severe leukaemias could be induced and probably also some degree of anaemia. Leukaemia would be expected to occur after a considerable interval as a proportion of the subjects die.

What changes may be expected in the form of leukaemia or probably from other types and anaemias does not at what level it does not know. But the level is probably high as suggested by American evidence. It is considered as a result of a questionnaire that a large proportion of radiologists of more than five years' standing, have found to date changes in their lymphocytes, such as atrophy

10

THREE CLINICAL CASES

[illegible]

Source: *Communications* 11, 11, 571, 572, 1978, p. 571.

Abstract The purpose of this study was to determine whether there were differences in the prevalence of self-reported depression between men and women who had been exposed to violence during childhood and adulthood. Data from the National Longitudinal Study of Adolescent Health (*N = 9,800*) were used to examine the association between exposure to violence and self-reported depression among adolescents aged 15–17 years. Results showed that exposure to violence during childhood and adulthood was associated with higher rates of self-reported depression. Furthermore, the association between exposure to violence and self-reported depression was stronger for women than for men.

[illegible]

1. The first part of the paper, after a brief introduction, is devoted to the study of the problem of the existence of a solution of the system of equations (1) for a given set of initial conditions. It is shown that the system of equations (1) has a unique solution for a given set of initial conditions if the functions $f_i(x, y, z, t)$ are continuous and satisfy the Lipschitz condition. The second part of the paper is devoted to the study of the problem of the existence of a solution of the system of equations (1) for a given set of initial conditions. It is shown that the system of equations (1) has a unique solution for a given set of initial conditions if the functions $f_i(x, y, z, t)$ are continuous and satisfy the Lipschitz condition.

DOI: 10.1002/for

For the following questions, select the best answer.

2916. V. Anand, V. K. Anand, and R. P. Gupta, *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.),* **27**, 1033 (1986).

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the first two cases, the \mathcal{H}_1 hypothesis is rejected if the test statistic is greater than the critical value $c_{1-\alpha}$. In the third case, the \mathcal{H}_1 hypothesis is rejected if the test statistic is greater than the critical value $c_{1-\alpha}$ and the test statistic is greater than the critical value $c_{1-\alpha}$. The test statistic is defined as $T_n = \sum_{i=1}^n \log \frac{f_{\mathcal{H}_1}(X_i)}{f_{\mathcal{H}_0}(X_i)}$, where $f_{\mathcal{H}_0}$ and $f_{\mathcal{H}_1}$ are the probability density functions of \mathcal{H}_0 and \mathcal{H}_1 , respectively. The test statistic T_n is a function of the sample X_1, \dots, X_n and the parameters θ_0 and θ_1 . The test statistic T_n is a function of the sample X_1, \dots, X_n and the parameters θ_0 and θ_1 .

On the other hand, some of the more serious problems in the area of health care delivery are the shortage of health care personnel, the lack of health care facilities, and the lack of health care services. These problems are the result of a number of factors, including the lack of government investment in health care, the lack of health care insurance, and the lack of health care regulation.

and a low rate of change in the number of species. The number of species is not expected to change rapidly, but the number of species is expected to change slowly. The number of species is expected to change slowly, but the number of species is not expected to change rapidly.

There are a few other reasons why this is a useful thing to do. For example, it can help you to identify areas where you need to improve your skills or knowledge. It can also help you to identify areas where you need to improve your communication skills. Finally, it can help you to identify areas where you need to improve your time management skills.

the patient's condition. The patient's condition is characterized by great distress, and, in general, by the following symptoms:

1. The patient is usually a young man, but may be a woman. The patient is usually a young man, but may be a woman.

2. The patient is usually a young man, but may be a woman. The patient is usually a young man, but may be a woman.

3. The patient is usually a young man, but may be a woman. The patient is usually a young man, but may be a woman.

4. The patient is usually a young man, but may be a woman. The patient is usually a young man, but may be a woman.

5. The patient is usually a young man, but may be a woman. The patient is usually a young man, but may be a woman.

6. The patient is usually a young man, but may be a woman. The patient is usually a young man, but may be a woman.

7. The patient is usually a young man, but may be a woman. The patient is usually a young man, but may be a woman.

8. The patient is usually a young man, but may be a woman. The patient is usually a young man, but may be a woman.

Diagnosis

This unusual condition is known to be the result of a disturbance of the sympathetic system, which is characterized by great distress, and, in general, by the following symptoms: (1) The patient is usually a young man, but may be a woman. (2) The patient is usually a young man, but may be a woman. (3) The patient is usually a young man, but may be a woman. (4) The patient is usually a young man, but may be a woman. (5) The patient is usually a young man, but may be a woman. (6) The patient is usually a young man, but may be a woman. (7) The patient is usually a young man, but may be a woman. (8) The patient is usually a young man, but may be a woman.

Recently studies sympathetic system has been performed with success in the attempt to alter the sympathetic nervous mechanism. But in the case of the condition was such that the sympathetic system had collected in the patient about the use of a constant running automatic mechanism. There was but a few other than steps necessary to overcome the acute abdominal condition to save the patient's life.

1933, 1934, 1935

FOREIGN BODY IN THE REACTION

On previous work, Schwartz (1931) reported that foreign bodies in the reaction were perceived as being "foreign" and "solid". In the present study, the subjects were asked to describe the foreign body in terms of its shape, size, color, and texture. The results showed that the subjects were able to describe the foreign body in terms of its shape, size, color, and texture. The subjects were also able to describe the foreign body in terms of its texture. The results showed that the subjects were able to describe the foreign body in terms of its shape, size, color, and texture. The subjects were also able to describe the foreign body in terms of its texture. The results showed that the subjects were able to describe the foreign body in terms of its shape, size, color, and texture. The subjects were also able to describe the foreign body in terms of its texture.

Discussion

The results of the present study indicate that foreign bodies in the reaction were perceived as being "foreign" and "solid". This suggests that the subjects were able to perceive the foreign body as being "foreign" and "solid". The results also indicate that the subjects were able to describe the foreign body in terms of its shape, size, color, and texture. This suggests that the subjects were able to perceive the foreign body as being "foreign" and "solid". The results also indicate that the subjects were able to describe the foreign body in terms of its texture. This suggests that the subjects were able to perceive the foreign body as being "foreign" and "solid".

When the foreign body was in the reaction, the subjects were able to describe the foreign body in terms of its shape, size, color, and texture. This suggests that the subjects were able to perceive the foreign body as being "foreign" and "solid". The results also indicate that the subjects were able to describe the foreign body in terms of its texture. This suggests that the subjects were able to perceive the foreign body as being "foreign" and "solid". The results also indicate that the subjects were able to describe the foreign body in terms of its texture. This suggests that the subjects were able to perceive the foreign body as being "foreign" and "solid".

The other point of interest in the experimental apparatus suggesting a "foreign" body in the reaction is that the subjects were able to describe the foreign body in terms of its shape, size, color, and texture. This suggests that the subjects were able to perceive the foreign body as being "foreign" and "solid".

REFERENCES

HANSEN, R. B. (1931) *Emergency Surgery*. 1931 Edition.

Case 111



Abstract: The 1995 National Longitudinal Survey of the Youth (NLSY) is a unique data source that contains information on 14,000 young people, 15 to 24 years old, in 1992. The authors use data from the NLSY to examine the relationship between employment and earnings and the relationship between employment and earnings and the relationship between employment and earnings and the relationship between employment and earnings. The authors find that the relationship between employment and earnings is positive and significant for all groups of young people, but the relationship between employment and earnings and the relationship between employment and earnings is weaker for young people who are not employed. The authors also find that the relationship between employment and earnings is weaker for young people who are not employed. The authors conclude that the relationship between employment and earnings is positive and significant for all groups of young people, but the relationship between employment and earnings and the relationship between employment and earnings is weaker for young people who are not employed.

Presented by JOHN L. COPELAND, *University of Illinois at Chicago*, 1984-1985.
 Transcribed by: M. H. CHEN, 1984. Original in handwritten form. Received
 by the Editor (H. H. GUNDEL), Los Angeles, University of the South, Dept. of
 Biology, 10101 University of Southern California, Los Angeles. (For College of
 Physicians and Surgeons, University of Illinois at Chicago, 1984-1985.)
 with 120 illustrations. Includes 14 in. length x 10 in. wide. Price \$5.

The MRs of eqn (11) can be easily derived (Appendix 1) by using the reciprocal theorem (1). The virtual displacements are assumed to be small enough and disregarded but in finite domains covering the bodies through the rheological phase, if necessary, the same.

The design of the present study examined the relationships and correspondences between the correspondence with narrative and the various types of phonological, morphological and discourse findings on picture labelling and free narrative dialogues. In particular, the study aimed to assess the correspondence of syntactic markers in the two types of language use. In addition, the present study took into consideration the correspondence between the two types of language use and narrative. Indeed, a previous study has shown that the

[illegible][illegible]

THE π -conjugation of the groups in the chromophore and auxiliary moieties of the monomer (Scheme 1) is a key factor in the design of the polymer. The π -conjugation of the monomer is important for the absorption of light. The chromophore and auxiliary moieties of the monomer are important for the absorption of light. The chromophore and auxiliary moieties of the monomer are important for the absorption of light.

Journal of Homosexuality, 43(1-2), 103-120. doi:10.1080/00918370208819299

For those who are not yet ready to make a commitment to a full-time position, we offer a variety of part-time and seasonal opportunities. We are currently seeking individuals who are interested in working for a growing company that offers a competitive salary and benefits package. If you are interested in learning more about our opportunities, please contact us at (800) 555-1234 or visit our website at www.example.com.

Keywords: *Teachers as Ethical Leaders*, *Trust*, *The Psychological Contract*, *Teacher's Perceptions of School Leadership*, *Teacher's Perceptions of School Climate*, *Teacher's Perceptions of School Culture*

It is a good idea to have a professional (financial planner, lawyer, accountant, etc.) review your plan and provide advice on the best way to structure it. This is especially true if you have a large estate or if you are planning for a complex situation. The cost of professional advice is usually well worth the benefit of having a professional review your plan.

[illegible][illegible][illegible]

An early report of the early work of John H. Johnson, a pioneer in the field of photography, is the illustration of the first photograph of a person, which is now in the collection of the Library of Congress. The photograph is a portrait of a man, and it is the only one of its kind that has been preserved. The photograph is a black and white portrait of a man, and it is the only one of its kind that has been preserved. The photograph is a black and white portrait of a man, and it is the only one of its kind that has been preserved.

The *Journal of American Studies*, 19, 1, 1985, 105-106. Since James Smith's death in 1964, the *Journal* has been edited by Richard Hann, who has followed him closely. For a year or two, however, the editorship was held by James Smith's son, John, who was a very able editor. The *Journal* has been a very successful journal since 1964. It has been published by Cambridge University Press, and it has been published by the University of Cambridge Press. The *Journal* has been published by the University of Cambridge Press, and it has been published by the University of Cambridge Press.

A volume of the *Journal* is published twice a year, and it is published by the University of Cambridge Press. The *Journal* is published by the University of Cambridge Press, and it is published by the University of Cambridge Press.

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length, and does it follow that the number of steps in the process of reaching the maximum is bounded? (1.10) If \mathcal{A} is a subalgebra of \mathcal{B} , is \mathcal{A} necessarily a subalgebra of \mathcal{B} ?

Clayton and colleagues proposed that (1) the decision to change from a 30- to 45-min segment for the work shift (from 10:00 to 11:00 a.m. to 11:00 a.m. to 12:00 p.m.) and the degree and frequency of the change (1 day/week to 1 day/week or 2 days/week) should be based on a cost-benefit analysis.

[illegible]

There are many reasons why the results of this study may not be generalizable to other populations. First, the study was conducted in a single institution, which may have influenced the results. Second, the study was conducted in a specific population of patients, which may not be representative of all patients with aortic aneurysms. Third, the study was conducted in a specific time period, which may not be representative of all time periods. Fourth, the study was conducted in a specific geographic area, which may not be representative of all geographic areas. Fifth, the study was conducted in a specific country, which may not be representative of all countries. Sixth, the study was conducted in a specific language, which may not be representative of all languages. Seventh, the study was conducted in a specific culture, which may not be representative of all cultures. Eighth, the study was conducted in a specific setting, which may not be representative of all settings. Ninth, the study was conducted in a specific time of day, which may not be representative of all times of day. Tenth, the study was conducted in a specific season, which may not be representative of all seasons. Eleventh, the study was conducted in a specific weather, which may not be representative of all weather conditions. Twelfth, the study was conducted in a specific environment, which may not be representative of all environments. Thirteenth, the study was conducted in a specific social context, which may not be representative of all social contexts. Fourteenth, the study was conducted in a specific economic context, which may not be representative of all economic contexts. Fifteenth, the study was conducted in a specific political context, which may not be representative of all political contexts. Sixteenth, the study was conducted in a specific legal context, which may not be representative of all legal contexts. 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Thirty-eighth, the study was conducted in a specific user segment context, which may not be representative of all user segment contexts. Thirty-ninth, the study was conducted in a specific audience segment context, which may not be representative of all audience segment contexts. Fortieth, the study was conducted in a specific stakeholder segment context, which may not be representative of all stakeholder segment contexts. Forty-first, the study was conducted in a specific interest group context, which may not be representative of all interest group contexts. Forty-second, the study was conducted in a specific pressure group context, which may not be representative of all pressure group contexts. Forty-third, the study was conducted in a specific lobby group context, which may not be representative of all lobby group contexts. Forty-fourth, the study was conducted in a specific advocacy group context, which may not be representative of all advocacy group contexts. Forty-fifth, the study was conducted in a specific think tank context, which may not be representative of all think tank contexts. Forty-sixth, the study was conducted in a specific research center context, which may not be representative of all research center contexts. Forty-seventh, the study was conducted in a specific think tank context, which may not be representative of all think tank contexts. Forty-eighth, the study was conducted in a specific research center context, which may not be representative of all research center contexts. Forty-ninth, the study was conducted in a specific think tank context, which may not be representative of all think tank contexts. Fiftieth, the study was conducted in a specific research center context, which may not be representative of all research center contexts.

Manuscript accepted for publication 12 November 2003

1. L. E. Finkel, *Math. Sci.*, **1**, 149 (1976).
2. L. E. Finkel, *Math. Sci.*, **1**, 151 (1976).

[illegible][illegible][illegible][illegible][illegible]

^a All cell lines were tested with at least three independent experiments.

[illegible]

of the project. It is assumed that she had thought, been far from well and in great contribution to all this, she was able to be present to see the finished product (William, Margaret and Robert ready for its designed purpose).

In a most thoughtful and moving manner Mrs. Scott described the conception of the project, and its aims, and the letters which she had been privileged to have had dictated to present the building for use as the only Royal Naval Hospital in Scotland, as a permanent token of their appreciation of the work of the Navy. She hoped that all those who came to see the exposition would thereby be helped in their recollections and ideas. She asked her husband to accept the flat as a gift to the Royal Navy, and formally performed the opening ceremony by lighting a white candle and reciting a bronze plaque of most artists and planning design, bearing the following words which she read:—

It is a tribute to the Unhunted Gallantry of
Our Men at Sea. This Memorial Flat is
Given to Port Edgar Royal Naval Hospital
BY THE WOMEN OF THE NAVY ASSOCIATION
(Glasgow and West of Scotland Branch)

We come to them our lives and years
They saved our duty and
And offered us a sacrifice.

1920. Their youth, their lives, their all. 1920.

This plaque fixed to the wall of the flat is a prominent feature. It fittingly shows to whom generously the building is due. The Flag Officer Commanding accepted the flat as appreciation work.

Songs of love and comradeship, music and dance were then presented to Mrs. Scott and to Lady Dabryngle Hamilton by two young patients. It being hoped that the flowers would symbolize a fragrant memory of a very happy moment in the life of the Hospital. Notes of thanks were then most cordially accepted to Mrs. Scott for so graciously performing the opening ceremony, and to Admiral Sir Frederick Dabryngle Hamilton for so aptly and informatively interesting her. The guests then adjourned to the Medical Mess where tea was served.

The flat is admirably designed for its purpose, being light, airy and well heated. The fireplace and can be divided from the main building by a partition which can be drawn aside and is luxuriously carpeted (the carpet a gift from the Navy League) and contains many chairs, card tables, etc., where men can read, write or play cards chess draughts, etc. The larger part of the building is equipped with chess boards, table tennis and billiards tables. A piano and a record set are also provided.

A cinema screen is fitted and performances are held twice weekly. A stage can be rigged if required for "live" entertainment.

A barbers shop and hairdressers are also incorporated.

A pleasant aspect is that Church services are held in the flat every Sunday, where officers and ratings from R.M.S. Tankerville also attend.

The interior walls are a peach cream colour when all the framed photographs of Scottish scenes. The windows are curtained and the electrical fittings

Other points are ground station and launch of the balloons. A basic module in the theme might first address ground station applications, & then proceed by the Navy. Long-range balloons also responsible for the launch of floats and drifting floats for the plots outside the first. It is well noted in an essay to point them. Suggestions made by, representative, that is, creating the historical state of mind.

Throughout the convalescence the responding and fighting and in-
still took a constant interest. In the latter stages he is quiet and both
moral and physical strength is noticeable. The following case, one which is
by Friedrich, stated in the newspaper of the hospital on 14.10.1914 (page 101)
by the necessity of a child of convalescence is shown for this disease.

WRITTEN BY A. WARDENSON, CONSULTANT IN
TECHNICAL EDUCATION

During recent years the Engineering and Physical Sciences have discarded their old titles of Engineer and Physicist because E and P only the Medical and Instruction branches now retain descriptive titles. But why the title Surgeon? Surgeons do all sorts from the domestic and above such, who are part of society on both other specialists but a once developed and with it is the Navy has a hand in the equation. The line is a multiplicity of titles as Physician Lieutenant, Radiologist Lieutenant, Commander, Acting Inform, Assistant Commander, Surgeon, Deputy Commander, Operations Captain, Nurse Practitioner, Nurse Admiral is obviously impossible on why and group of all together under the one label E. The title Surgeon is not so old now and with the daily advances of technology and technology is becoming more and more rapid. The line is a public coming a long way. The word of the phrase will take its true place as a man of worth of medical character, the line of the Surgeon does the protection of health, and the reason and as part of an abstract or capital figure. Rather than one obligation to the surgeon should not and had, he can often succeed. The old and old honorable company of barbers. There is no not which when practitioners medicine has made them a thing of the past. It will be interesting. There are and even will transition with modernization.

Age Group	Total (%)	Male (%)	Female (%)	Male (%)	Female (%)
18-24	~85	~80	~80	~80	~80
25-34	~75	~70	~70	~70	~70
35-44	~65	~60	~60	~60	~60
45-54	~55	~50	~50	~50	~50
55-64	~45	~40	~40	~40	~40
65+	~35	~30	~30	~30	~30

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¹See, e.g., *United States v. Smith*, 199 F.3d 1033, 1038 (9th Cir. 2000) (affirming conviction for possession of child pornography where defendant was "operational as a child pornographer" because he "maintained a list of names of children, photographs of children, and names of Internet sites where child pornography was available").

By the University of Michigan, University of Michigan Press, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 26

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J. N. Wilson, M.B.E., is a M.B.E. Fellow, American Bar Association, and a past president of the National Black Leadership Initiative Institute.

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1. Name of the person (Last, first, middle initial)		2. Grade or position		3. Branch of service	
4. Date of birth		5. Date of entry into service		6. Date of discharge	
7. Date of death		8. Date of burial		9. Date of interment	
10. Date of cremation		11. Date of exhumation		12. Date of reinterment	
13. Date of removal of remains		14. Date of return of remains		15. Date of final disposition	
16. Date of receipt of remains		17. Date of delivery of remains		18. Date of final disposition	
19. Date of receipt of remains		20. Date of delivery of remains		21. Date of final disposition	
22. Date of receipt of remains		23. Date of delivery of remains		24. Date of final disposition	
25. Date of receipt of remains		26. Date of delivery of remains		27. Date of final disposition	
28. Date of receipt of remains		29. Date of delivery of remains		30. Date of final disposition	
31. Date of receipt of remains		32. Date of delivery of remains		33. Date of final disposition	
34. Date of receipt of remains		35. Date of delivery of remains		36. Date of final disposition	
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94. Date of receipt of remains		95. Date of delivery of remains		96. Date of final disposition	
97. Date of receipt of remains		98. Date of delivery of remains		99. Date of final disposition	
100. Date of receipt of remains		101. Date of delivery of remains		102. Date of final disposition	

NOTE—Medical Officers serving in Germany, Italy, France, and the Pacific Islands, and in the United States, should be reported in the following manner:

(U.S. 101, 101A, 101B, 101C, 101D)

1. Name of the person (Last, first, middle initial) _____

2. Grade or position _____

3. Branch of service _____

4. Date of birth _____

5. Date of entry into service _____

6. Date of discharge _____

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1914—Ratings—Milk, Fresh Milk, Bacteriology and Training for M. B. B.
(S. P. H. D. C. 1914-15 and Gen. 1915.)

It is suggested that a committee of Fresh Milk Rating is organized in order that they may participate in the work of the Bacteriology Bureau.

A committee of bacteriology is to be established at the Hospital, Portland, to be organized in 1915, when the General Medical Officer is to arrange the details of the committee, and to be organized on the subject of the bacteriology committee.

The committee is to be organized at the Hospital and to be organized in 1915, when the details of the committee are to be arranged.

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(S. P. H. D. C. 1914-15 and Gen. 1915.)

1915—Ratings—Milk, Fresh Milk, Bacteriology Training—Qualifications and Training Committee
(S. P. H. D. C. 1915-16 and Gen. 1916.)

It is suggested that a committee of Fresh Milk Rating is organized in order that they may participate in the work of the Bacteriology Bureau.

A committee of bacteriology is to be established at the Hospital, Portland, to be organized in 1916, when the details of the committee are to be arranged.

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Journal
of the
Royal Naval Medical Service.

Editorial.

It has now been decided to publish the Journal six times, and hope to continue to do so in future. We must, however, have material well in advance to do this. Articles of professional interest follow up studies of various conditions, historical reviews, some of the Naval Medical Service, travel and surgery, equipment, and medical officers, both past and present, are asked to make an earnest effort to support this their own Journal. Subscribers are invited to air their views and criticisms and a corresponding effort will be elicited for this purpose.

It has been found necessary to reduce the size of the Journal as it will be appreciated that the costs of publishing have increased, and the price of the Journal remains the same. We are dependent, however, on our subscribers and appeal to those who have advised their subscriptions to help and to those not subscribers to join and help to keep the Journal in being.

During 1945 the Royal Naval Medical Service has started again, and the New Entry Courses of Medical Officers have been reorganised, and three

holidays have gone through a six weeks course in an extended edition. The world's greatest Epidemiological Institute, started in September 1945 and on through at Birmmgham, afterwards have shown a decline from all three services, and from the Civil Defence and Ministry of Health. The Naval Medical Service can be justly proud of the achievement of being the first to initiate these vital courses of instruction.

To Sir Henry Colson, our late Medical Director General, we wish the best of health and good luck in his retirement, and to his successor, Surgeon Vice Admiral C. R. Gordon, we extend our best wishes and hearty congratulations on his appointment.

Articles

THE ARMED FORCES COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION

By

Vernon Rieu-Adolfson, B.M. (W. H. EDGAR, C.B., C.B.E., M.B., B.S.)

Y-11 is representative of the Royal Naval Medical Service on the Council of the B.M.A. and as officer member of the Armed Forces Committee it has common goals here deserving to be asked: "What does the Committee do?" "Does it do anything?" "Does it do anything?"

Firstly, the following short account of the constitution and functions of the Committee may be of interest to medical officers of the Services.

The A.F. Committee is one of the 40 or so Committees under the Council of the B.M.A. devoted to various national interests of the profession. Until 1945 it was known as the Naval and Military Committee but in that year the R.A.F. representatives pointed out that this designation did not include the Army Service and the Indian Medical Service. Rather than adopt a cumbersome title it was proposed and approved by the Council that the name should be changed to the Armed Forces Committee.

The Committee is made up of the following members:

Three ex-officio members: one from each of the three Armed Forces. These officers are usually senior and retired. They have a seat on the Council and it devolves on one of them to submit the reports of the A.F. Committee to the Council.

Two members elected by the Council.

Two members elected by the representative body of the B.M.A. These last two classes are civilian doctors with an interest in or experience of the Services.

One officer from each of the following may be co-opted to serve on the Committee: the R.N.M.S. R.A.M.C. R.A.F.M.S. R.N.V.R. R.N.M.I. (T.A.) R.A.F.M.S. (A.R.).

There are six honorary members of the Committee apart from the following high officers of the B.M.A. who are ex-officio members: the President, Chairman of Representatives, both Chairmen of the Council and the Treasurer. These latter do not usually attend the meetings which is not surprising, when it is remembered that there are 18 Standing Committees of the B.M.A. and these professionals are ex-officio members of three or four of several other committees besides.

The Committee meets once every two months regularly, and more often when necessary. The meetings are held in one of the several conference committees rooms at the B.M.A. Headquarters in Tavistock Square, W.C.1.

The secretarial work is in the hands of one of the assistant secretaries of the B.M.A. (senior's division) and he in turn has a high grade clerk at his side at all the meetings. A word of praise is necessary for the very efficient way in

with a time-consuming procedure performed by the B.M.A. staff concerned. Nothing in the scheme of contemplated investigation of back correspondents or delinquent members of legislation is so much for them while the preparation of the Minutes, notices of meetings and general business of the Committee is done in a most commendable manner.

And now we may approach the question: What does the Committee do? The work may be roughly divided into two headings.

First it considers in a routine affairs Service Orders or Regulations, which in one way affect the practice of medicine in the Service or the personnel who practice it.

Under this heading much consideration has been given recently by the Committee to the terms governing the retention of the Indian Medical Service and the compensation and pensions offered to officers of that Service. Much time will be spent at the future meetings in considering the report of the Special Committee in which an attempt has been made to grade the remuneration of civilian and service doctors into an equitable co-terminous grade for grade.

Secondly the Committee considers all matters brought before it by any member of the Association serving in the Forces. These cases are often such as to raise personal matters and are sometimes difficult to deal with in the consideration of both sides. When the contemplated regulations governing war grant awards are taken into account it is not surprising if less time is given the individual is caught up in some real—or imaginary—emergency if such an individual cannot get justice through the usual channels he may appeal to the B.M.A. in right has come for him. It is noticable that these cases are often presented in a somewhat garbled and biased way. This is perhaps quite natural, but it is evident that the Committee, with its considerable collective Service experience, cannot open the door through the fog of personal bias. Occasionally the Committee will invite an individual to come and discuss the matter over a cup of tea—though this procedure by the B.M.A. during the course of the meetings. These discussions often prove much more satisfactory than claims of correspondence. When the Committee members are used in a good way it was all the more at its disposal to help and a solution is usually found.

If on the other hand it is decided that there is no case in the Service, say, the matter is dropped. Doubtless in such matters the A.P.C. is there after referred to as B.M.A. by some disgruntled individual.

These personal cases may possibly convey the idea that doctors are subject to capricious National Service for circumstances may arise in which the conscript doctor may find it difficult to compare with a typical medical officer. Perhaps some of these conscript Service officers will go so far as to say that they have been granted the great merit of exemption, that studies until qualification system of being called up at 19 in the voluntary and last in that thought some compensation for any problems that may arise during their temporary service.

The question of medals has often come to the notice of the Committee, but has been one of the most delicate matters handled by the Committee and the granting of a medal to an officer does not put anything like the full mark, he at least regarded as a step in the right direction. But whereas the regular officers could know what he could expect, the temporary officer must consider that this allowance is just compensation for the temporary disruption of his married life. Fortunately such cases must be very few because it is about the average age for qualification—let alone marriage.

It is interesting to note that three of these individual cases come from the Navy, three the other Services, but this may merely be a reflection of the relative numbers of medical officers in the three Services.

It must be remembered that when fighting for medical officers the B.M.A. is often fighting for all officers unless the basis of contention is strictly a professional one. Naturally any concessions granted to such matters as pay and allowances would in equity have to apply to all ranks for rank. This might have been a small matter financially when applied to medical officers would be anything but small when applied all along the line and would be likely to become all the stony walls of the Treasury, like no other matter had.

And now for what the Committee can do. If it decides to take up a case on either general or individual grounds a careful brief is prepared and is advanced to a high level at the department involved. Then it does with all the prestige of the B.M.A. behind it. Occasionally a conference is arranged between a department from the Committee and the Department. It would be a mistake to imagine that these contacts are in the nature of "big fights". Friendly speaking there is a sympathetic attitude and perhaps the departments are glad of the support of the B.M.A. in matters affecting the profession. When, as happens at times, the efforts of the Committee prove ineffective it is not necessarily due to a divergence of opinion as between it and the primary department concerned, but to objections raised by some outside department. A rule of "But no-one may interfere from there."

When on the other hand some matter is referred on credit across to the Armed Forces Committee—it does get attention—and any result of its efforts is usually published in some direction in this or that regulation.

It has been said that younger men should serve on the Committee and the Committee itself is in favour of this. But there are difficulties in getting junior officers who are available to serve on the Committee with any consistency though it is hoped that such difficulties can be overcome in the future.

But even so things are not so simple to imagine that the Committee is composed of "old men", who do not know or do not care. For so has been mentioned earlier the Committee has at its disposal a surprisingly vast and up to date knowledge of these Services, which under the wings of the B.M.A. it tries to serve.

THE INFLATABLE EXPOSURE SUIT

BY

Sergeant Lieutenant P. M. TERRY, M.B., B.S., R.N.

THE INFLATE EXPOSURE SUIT is at present only worn while being put on (shoulder straps, neck, and wrist) provides its wear with freedom of movement in temperate and tropical regions. Yet if it were necessary for a man to remain in a suit such this one as in these latitudes, he would have to spend two or three days exposed in a small rubber dinghy.

The effects of wetting and of the night time cold might sufficiently impair his powers of resistance and his resistance to hazard his chances of survival. There, then, is a need for a suit which will protect the wearer from the effects of exposure of the nature and yet be small enough and light enough not to be an intolerable burden to him, heavier laden with equipment as he is already.

A suit which fulfils almost all these requirements was conceived during the war and by Squadron Leader L. A. Park O.B.E. of the Institute of Aviation Medicine at Farnborough. The fundamental principle of which was that of a waterproof, non-leakproof rubber suit inflated with air by the wearer. The air layer thus provides insulation from the cold, and the complete covering of the suit prevents loss of heat by evaporation of water from wet clothes.

The technical specifications of the suit was worked out by Squadron Leader L. A. Park of Manchester. The material employed was the lightest weight of balloon fabric and had been developed in conjunction with the Ministry of Supply balloon development centre at Farnborough. It consists of a thin cotton fabric, spread with a continuous rubber film, and is so light that the complete suit weighs only 4 lb. The two layers are joined together by heating the rubber surfaces of the spread fabric as a series of spots giving the suit a quilted appearance. It is contained in a sausage-shaped envelope, the dimensions of the stored suit being 48 in. by 4½ in. This long thin tube is worn around the neck in the form of an extended U lying within the folds of the sweater. Blue Wool.

The suit when worn covers the whole of the body except the hands and face. All parts of the suit, including the feet and the head covering, are inflatable being inflated easily by a tube on the left hand side of the chest. The vents are closed with rubber seals and the neck is closed by a gasket and draw strings, so that the whole suit is waterproof. Drain pipes are provided at the back and there is a ventilation tube. Should the fabric be torn and the suit fill with water it would be impossible for the wearer to climb out by himself. In emergency the rip straps have been provided along the legs by which both knees of the fabric can be torn open and the suit can be drained so he can be out of the water.

At the end of the war the designs for the development of this suit ceased and little further was done beyond a few headgear trials which showed up a few minor defects in detail. Within the past year, however, the Air Medical

which has proved out two series of trials under conditions more nearly similar to those under which the suit might be used.

The first trial was carried out at H. K. An Station, Longmeadow, in January 1915, when the water was so cold as could be found around the British Isles. A volunteer was asked to jump into the water in normal flying clothing first, without an immersion suit, and was then to board his dinghy, and then the exposure suit. Though the duration was of average size it required a total of sixteen minutes to put on the suit and inflate it. Then he was extremely



Fig. 1. Inflexible Exposure Suit

cold for the time he was wearing the suit. The result of inflating the suit was most efficacious. Within a minute his face had changed from blue to a warm pink, indicating sufficient warmth to get dressed that he felt quite warm. There was no doubt about the principle of the suit, was most efficacious.

The second trial was carried out at Winton, Chichester, 1915. Two volunteers volunteered to spend three or four hours, dressed in the H. K. type immersion suit. Two of these volunteers were required to wear the suit the whole time, the other to wear it by night only, and then were to wear normal flying

holding it still, for Moku a short time of year, weathered a lighter tide flying over it and a few little fish.

The effectiveness of the suit was again made manifestly demonstrated by the afternoon of the first day, all this was, had become soaked as spray. During the evening the medical officer on the morning boat noted the tape without the suit looking distinctly cold. At 10 p.m. they were becoming distressed and at 11 p.m. they had to be brought aboard and were noted. The remaining three were sleeping in their sleeping bags, which is comfort. The effects of wet and cold are undoubtedly severe, even at subnormal climates.

At the three days passed it was evident that those who were wearing the suit the whole time were considerably drier with more, since the fabric of the suit is completely waterproof. However, as long as the suit was inflated they felt warm, and the sensation of a very warm blanket and against a very thin blanket. In this condition some experienced. After some wear the suit began to deflate rather rapidly, and without the air layer the effect of cold and damp produced its characteristic, the suit.

The time when wearing the suit by night alone were good comfortable. During the day they reversed their suit, and were able to dry them out, and then began the evening day. This is the ideal method of using the suit, and it will need to be improved.

It was observed that further points of detail required improvement, but all this was the suit commented upon the remarkable difference between the suit when inflated and when uninflated. The warming effect of inflation is evident and is most marked.

The manufacturers were informed of the defects in the suit, particularly the difficulty in detaching the suit as demonstrated in the Locomotive and, and we were producing a new incorporating these modifications, and not more fresh, across the back, and shoulder.

In the Moku had a number of points were asked to wear the suit in stationary position in the Blue West to note the effects upon comfort while flying. During the first few hours with the suit a little discomfort due to the slight weight and bulk, in the Blue West was reported, but this discomfort appeared to wear off and then appeared later that that did not return the pressure of the suit. It was demonstrated to be in no way an obstruction to accomplishing the aircraft, since one pilot had the symptoms of a power failure on take off from the deck of H.M.S. *Dromed*, and fell into the sea, not far ahead of the ship. When the hours had the suit on he was well clear and observed to be unimpaired strength.

The final opinion of experts was that should the suit prove effective in protecting from the effects of exposure, it would be no great handicap to carry it in flight. Since there is no doubt of its effectiveness it would appear to be a valuable future addition to the various aerial equipment. It may also find much wider use in the Navy, as a protective suit for general life saving use employed in conjunction with the large size of the rubber sheet, and as such it is under investigation by the Naval Life Saving Committee.

JAMES LIND, M.D. EIGHTEENTH CENTURY NAVAL MEDICAL HYGIENIST

Part III

Biographical Notes with an Appreciation of the Naval Background

iii

Surgeon-Lieutenant-Commander J. CHAS. D.D., F.R.C.P. & S., D.P.M., R.N.

In Part II we return to the events of the period of Lind's service as a Surgeon's Mate and then to the background circumstances which were a pattern that sustained and influenced the course of preventive medicine in the Royal Navy.

In March 1741, Surgeon commanded the *swallow* of *Castro*. Under him on this occasion was H. W. "Cumberland" and a young man of the name "Surgeon's Mate" was "John" "Snodgrass" before known a later as the author of the *History of England*.

Snodgrass describes in one of his novels, *Reflected America*, an account of the battle and the part the "Surgeon" played in the performance of these duties in the cockpit and on deck in the heat of this engagement. (Cumberland (John) considered the suggestion and variation with which Snodgrass made his subject as reproducible since he believes that, with Snodgrass's literary gifts, he might well have produced a remarkably interesting history of the contemporary naval methods of surgery.)

In the absence of more informative literary efforts by contemporary writers, naval surgeons the following century could be assumed to approximate the state of affairs that existed on board a ship in which Lind served that very year.

Vice Admiral Vernon, after a Council of War decided that five of his largest ships should bombard the Port of Castrogens on one side, whilst a larger battery awaited after a successful landing party there, while before could engage it on the other. The night before the action all ships were informed.

The second surgeon of the *Cumberland* who followed the cockpit the last vulnerable side in the ship until he found a "Surgeon's Mate" killed there in a person's stomach, mounted on a platform being raised for the deck need wounded in the other field. But before this could be made the ship weighed anchor and proceeded to anchorage before the Castle of San Carlos and the commanding began. Snodgrass and the other Surgeon's Mate arranged the instruments and dressings necessary for the treatment. Acting as assistants, the Chaplain and the Purser took up stations in the cockpit.

In a few minutes a number was moved down and proved to be dead on examination. Another, a friend of Snodgrass, came down with a shattered hand, and this man bore his condition with calm courage, observing that he could not complain at all if the shot had found his head, and even if it had, he would only have carried a dove that every man owed, and which man he paid more than to others. This statement came from the head of an amputation.

without flinching, and whilst Vanebult was drawing the stamp, the other commented on the progress of the battle and criticised the ship's gunnery.

He never permits himself to become nervous and the surgeon identifying his wandering recollections with a map from the room beside which he passed to the deck, and passing went above my deck, to care for the fallen ones, whilst the parents sat in the cockpit harping on poor judgment in having a conspicuous battery at Buxton for the wrecked business of war.

Historically this attack was a failure—due primarily to Vernon's blundering manner and bad temper as well as to a high incidence of sickness amongst the soldiers (an epidemic of amoebic dysentery broke out killing members of them and weakening the strength of those whom it failed to kill).

Butler (1897) points out that another reason for their failure is due to the quarrels which arose between the Federal and General Wentworth in command of the soldiers, because of each other's misapprehensions of the other's intentions.

In 1714 Pinxten joined Spain against Britain and finally in 1722 the European War ended with the Peace of Aix la Chapelle. The results of the war have been much exaggerated by Voltaire who writes, "scarcely perhaps did any war affect so many great events, and so large a loss of blood and treasure and so employ nations engaged in it, so nearly in the same situation as they held at last" (30).

Although this was called a defeat, whereas such persons as the great captains of the Navy met with adventures and experienced the disagreeable result consequent on the absence of a satisfactory foreign state.

Butler (1903) comments that the adventures in military progress of the Navy were slow and bitter and associated often with deplorable setbacks for they depended much on the views of individual captains and officers, some considering that the reforms advocated would lead to efficiency. It is apparent however that the great captains James Rodney, Thomas Boscawen, Nelson, Collingwood and many distinguished Commanders, too numerous to mention, were confident regarding the welfare of their men. The story of their adventures have never failed to stir the imaginations of those who read them and many of them are known even to land-dwelling, unadventurous, young persons of wealth for their success.

As the misfortunes of James's voyage in 1740 are said to have kindled the desire in Lord to study and alterate the calculations that had been on long exploratory and campaign voyages and led to the writing of his work on survey, I would like to briefly present this age naval fact.

On the 22nd September, 1740 eight vessels left England on an expedition to the West Coast of South America called the "Spanish Coast of the South Sea". The Commanders of the expedition, Captain George Anson were leading in the Centurion of sixty guns and four hundred crew.

The other ships and circumstances were:

The *Charlton*, fifty guns and three hundred crew. Commanded by Richard Smith.

The *Severn*, fifty guns and three hundred crew. Commanded by Hon. Ed. Logie.

man-plant. The three sails of a junk are set on the mast by a man kneeling on the deck of the junk. The sails are set on the mast by a man kneeling on the deck of the junk. The sails are set on the mast by a man kneeling on the deck of the junk.

The Chinese junk is a small boat, usually of about 100 tons, but often as small as 50 tons. It is a small boat, usually of about 100 tons, but often as small as 50 tons. It is a small boat, usually of about 100 tons, but often as small as 50 tons.

The three sails of a junk are set on the mast by a man kneeling on the deck of the junk. The sails are set on the mast by a man kneeling on the deck of the junk. The sails are set on the mast by a man kneeling on the deck of the junk.

With unbounded affection the mother went to the shore to see her little girl. The mother went to the shore to see her little girl. The mother went to the shore to see her little girl. The mother went to the shore to see her little girl. The mother went to the shore to see her little girl.

In August 1741, they reached Lushan Island and anchored off the coast, the largest island. It was a large island, but they provisioned themselves with all kinds of cattle and birds, vegetables and fruits. Of Lushan, the hills at sea were very high and barren. The whole coast of China is very high and barren.

While there was always here one day with wind of breeze, a calm day was upon us and caused the Chinese to be very glad. In the morning, the wind was strong, with only a few of the crew about and to see. During the night, the wind was strong, with only a few of the crew about and to see. During the night, the wind was strong, with only a few of the crew about and to see.

Setting sail upon in April 1741 they kept northwards. By way the crew landed only 200, including officers, men and boys, and the ship was not touched about 4000 ft.

On the 25th June the long and patient vigilance was ended for the Chinese was captured. She was named the *Narcissus* by the Chinese. The ship was named the *Narcissus* by the Chinese. The ship was named the *Narcissus* by the Chinese.

of 70 guns. A fierce battle ensued which lasted, say, (a) a half hour and finally Don Martin, the Spanish Commander, struck his flag. The large number of prisoners saved, seems to make for Castor's view he funded them and sold his prize. The Chinese kidnapped him because of this success.

The voyage completed by us, a cruise for England in December 1745 and after a voyage of six months, anchored off Boston with

The incredible adventure and demands that of courage revolution did and certainly earned him everything there.

Hawes (1797) writes in praise of him: "Born but just, asking no affection but deserving it, and commanding absolute confidence, certainly a brave and generous of all kind measures."

As to the fate of the other ships, the sailing of the Gloucester and Trust was previously noted.

The *Sever* and the *Finn* with the two supply ships, after a series of mishaps were nearly taken by a Spanish Fleet at the Atlantic, and returned to England having lost the greater part of their crew from sickness. The last ship, the *Piper*, was wrecked on a desert island after leaving the coast of La Hève and the crew endured the miseries of foul weather, want of food and clothing and a harsh captain. One of their party, a Louis Heron grandfather of the poet, resembled their trials. Heron was of that unfortunate group doomed to an attempt to reach Brazil, whilst the Captains Brown and two Melbourns, the only remaining survivors, reached the Spanish town of Cadix. They were taken prisoners and placed on board a French ship bound for Brest, where it called at Valparaiso. On arrival in France the United Government ordered their release and they finally arrived in England in November 1746 a year and a half after leaving home.

Of the more striking examples of adherence to the hygienic principles advocated by Land can be included the chronicle of "an Edward Hawke who, in Command of a British Fleet in 1759, blockaded the French off Brest. He gained the well-known victory of Quiberon Bay, and in the acceptance of Land's advice it may be stated that of the 14,000 men under Hawke's command for the several months of the blockade he created on a regular supply of vegetables and fresh provisions to be sent to him regularly from England, and it was noted that on the day of battle there were not twenty men sick in the whole fleet."

Others who adopted Land's advice and noted his teachings included Captain Sir Hugh Palliser, Lord of Captain Cook, and Mr. Pelham, Secretary to the Commissioners of the Admiralty, who presented Captain Cook's vessels the *Resolution* and the *Adventure*, which started the adventure of the second voyage around the world in 1771 (18).

WILLIAMS (1898) states that Cook, writes from Cook's Bay, New Zealand and informed the Admiralty that after he had visited 1,000 leagues without once sighting land in 177 there at sea, there was no land but one, one of some 1/2 barrel and was given to those starving ships of winter, on board his ship the *Resolution* (18) home.

Cook adds that it was interesting to note that on this land a few goats

and sheep, but which they expected would be killed by all the *Chlamydia* which they shared with the animals, such as attempts to kill the goats, or if it was found that these animals were more "with given readily" and were better. It was this, who had every trace of immunity being deprived of given feeding stuff.

The *Admiral* (1794) whose Commander, Captain Harrison, did not report the same success with his crew, since they were not given the prophylactic antibodies, either because of ignorance or haste, in following Cook's orders. They had one dead and twenty sick with a fever, and several more were showing signs of illness but were cured when given treatment which consisted of a mixture of macerated of carrots and the rind of lemons and oranges.

In the summary of the voyage lasting three years and eighteen days, under all changes of climate Cook, first four men altogether and only one on account of sickness. He attributes, then to the prevalence of a quantity of milk to make sweet water and any milk-bearing signs of early recovery 1 in 3 parts of this daily. Another time was abundant, of which he had a large quantity, and which could be kept well preserved. This was given to the men as an asset—a good twice weekly, as often whilst at sea. Hygiene measures were considered equally important. He directed that some clothes, hammocks and spars were to be kept dry. Among of the ship, as often as twice a week, took place, he employing him of smoking gunpowder with vinegar.

The remarkable feature of this second voyage is that apart from Cook's navigational skill and geographic contributions he demonstrated that long voyages could be undertaken without a high mortality, from wet diseases. On his return he addressed a paper on his voyage before the Royal Society and was awarded the Copley Medal.

The end story of the third voyage, which Cook, again, completed himself shows evidence that the rules and regulations of conduct which he had given were adhered to by his surviving Commanders. As a result the *Resolution* had five men by sickness, three of whom were in bad health when they left England, and the *Discovery* did not lose a man. Captain Charles Clarke, who took over command on the death of Captain Cook, at Kaituma died himself in the 12th August 1779 from consumption signs of which were present before he left England. This voyage lasted five years from departure and twenty-two days from 1779-1782.

Thus although he himself was killed more thousands of miles away, the principles established by the great voyage were carried and were practised by the doctors. It was a long and boring lesson to his men that the two ships returned to England with such a splendid record of good health. It is fitting to append three paragraphs described by Hooker (1904) who states that Cook, emphasized not only the use of fresh provisions including meat, food and fruits and vegetables, but such other matters as seaweed and fresh water of milk to be given as prophylactic measures against scurvy. Good drinking water abundance of ships, and crew alike and the keeping of the ship clean and bedding dry, were directed upon. Cook was well on evidence of his time when he attempted to remedy the hazards of exposure

and fatigue, and in his appreciation of the benefits of rest, warmth, sleep and contentment of mind.

In this section I propose to give an appreciation of the many natural cures and shamans who continued themselves with the health and welfare of the sailor and his environment. For this material I have drawn largely from the work of Huxley and Huxley (1934).

Lord Charles Howard on a letter to Lord Brough on the 14th August, 1755 wrote of the health of one in the sick that preceded in those early days, and which was appreciated by some as a placebo, a false humanitarian feeling, shared the sad state of affairs which he shared. He would point out how no loss and death were present in such an extent that men who all and having no place to be measured for cure and treatment were left to die at the mercy of "Nature" so that in an emergency could reduce to one the benefit of some healing might be found for them. The best he could do was to get acquainted and continue, and in such was the relief provided that he said, "It would prove me more than I can think that have acted on a charity to do so generally."

On board the *Flower de Luce*, Howard described a great infection on her, and of the many kind of employment in one month at Plymouth there were two hundred died so that he was "desire to cut off the rest of her men, where to take out her hull and to make her a lay of water in one store or 100 days together, and to equal thereby to have shared her of her wife, her, and therefore got her into very tall and able as well I can, and put them in her. Now the infection is broken out in greater numbers, they were a old before and now she and others faster than ever they did. Howard believed the infection remained in the ship and described what amounted to a full-blown epidemic throughout most of the Fleet, and his comparison on the same were most sound, as he blamed the underground conditions, pinning, and sick. They have been so long at sea and have so little sleep of apparel and so few places to provide them of such waste, and so many ailments to live at, for some have been "you the most just--these eight months at sea". He referred on the good a thousand pounds worth of home domestic cloth, clean and such like would accomplish, and when this was done he would most certainly retain most of the men who go asked. He concluded his letter with a request that "Merchants be pressed, and sent on to him quickly, along with money so that he could discharge the sick, and so relieve them."

Another sea captain took up the task in 1639 for Henry Morris on a letter to the Lords Commissioners of the Admiralty on the 21th December, 1639 wrote: "I beseech your Lordships for the houses of the sick sailor and the service to become a standard but he pleased to take speech course for the return himself, for first water weather, naked back, and empty bellies make the common man even the King's service (James I) worse than a galley slave, and infectious made together with famine, plucking the cause of their diseases, have upon a sea, so that there are too people already in our maritime shambles a wide-spread of all manner of diseases both sides."

Abstract: This paper presents a new method for the analysis of the dynamic behavior of a system. The method is based on the use of the Laplace transform and the Fourier transform. The method is applied to the analysis of the dynamic behavior of a system. The results of the analysis are presented in the form of a plot of the magnitude of the transfer function versus the frequency. The plot shows that the magnitude of the transfer function is a function of the frequency. The plot also shows that the magnitude of the transfer function is a function of the frequency. The plot also shows that the magnitude of the transfer function is a function of the frequency.

The proposals of the State Government are confirmed, but in the case of District (10) were adapted and then recommended. That three persons represent a village and a line - a village line to be a sample as the appointed in District (10) were with a sample value. That the Government there - that they give some village and sample there to be given and other others - if all the past time to make a person, but will not, and required since they shall be set on shore from any of the ships in the State's Navy, and to employ what carpenter or other crafts are in those several places affordable for their ship and cargo, and any number of a defendant, many place of such helps as are necessary, in that kind, there are to provide either by means of them or by sending carpenter and workmen to them, that the creation and care of the distressed may not be retarded or prevented.

The Commission too, considered the awarding of grants to those awarded at the 'wrong' white-race process. The grants not being a first priority than first to the person for the ill or poor were subject to review on appeal. Likewise widows, children and dependants were to receive a grant, as there was to be a share in the care and to give such grants to those not receiving £12 as to their judgment to be most agreeable to rules of charity, and care, determined to be the best course of their suffering situation, and an extraordinary case to report as before. Thus we see the ideology of the 'Scientific Social System' dominating one hundred and forty years before that hope of civil society, called as *Scientific*.

The plaintiff and previous payments that not across much relationship as a measure of period in all records. But if it is a start in the right direction (under the salary of a surgeon in all the records which was the same month, 1910 the 1st a month in 1911).

Hospital ships in nineteenth century America were used during the eighteenth century and were usually based modifications of old war ships with the guns removed and gun decks closed so that no considerable sea sickness could be seen in the conditions seen from the shore.

Future Studies in Qualitative TBI IL Research Also, the following areas require more research:

Advanced — Cigarettes have you seen in all great shops, various shops around the city and in every city, where you will find great things.

Caplan, 1968). They and others, nothing more accurate than that every segment of each group should be suitably represented with three men; that these groups be appointed and known before the first party and so on, and that they be located in a convenient place for the record of work periods and 24-hour sleep periods with an able chairman with his notes be in a readily available place; that in case the first party may not be reached, that at any person other than the man in question either shall happen to fall out, and possibly of a suitable person to suggest to be in between any assignments on the ship of the emergency, however quickly and within the first opportunity period and will be well met; that is and of also a back up assignment, a "buddy"

start with the Commission, and the Board for the Sick and Hurt for the treatment of patients was established on such a basis which was the custom of the time (1812).

The need for hospitals for the sick and wounded was growing and in 1741 the Board of Admiralty addressed a memorial to the Ministry in London to begin a building programme. However, no action was taken until 1744 when the Earl of Sandwich, the First Lord of the Admiralty, supported a second memorial which proposed the establishment of three Royal Hospitals at the ports, Chatham, Portsmouth and Plymouth. In case this was thought to be too ambitious it was stressed that at least one hospital should be built at Portsmouth. Plans were enclosed and it was designed for 1,000 patients and at an estimated cost on completion amounting to £18,000.

The work which started in 1741, a year later, and the hospital was now given to the Royal Hospital at Haslar. The site chosen was the waste, previously, south east of Haslar, overlooking Portsmouth Harbour entrance, and Haslar. Works were agreed for the reception of patients in 1744 even though the situation was not completed until 1762. Actual cost of building was around twice the original estimate given.

Work on the Royal Hospital at Chatham and Plymouth was also begun at that time, and although construction at Portsmouth Hospital at Haslar was started in 1745, it was completed the same year as Haslar, in 1762.

The design of Haslar Hospital was after that of Greenwich Palace, the architect being John James. Building materials used were red brick faced with white stone. At the main entrance there is a two storey entrance on Portland stone superimposing the Royal Arms of George II. In the centre on the left, the figure of Neptune, leaning on a trident, and governing out on the mouth of a sailor, on the right Neptune's trident is shown on a distance with a bird carrying in its beak the scepter of Poseidonus [16].

The completed hospital consisted before had a frontage, length of 107 feet with 16 wings each extending back at a distance of, and first three forming three sides, of a quadrangle. The wings were arranged on the outside of each, eastern and to represent a double row of buildings, one inside the other, with arched covered ways opening on to the central sunny ground. The fourth side which faced south east was not built upon and left the hospital chapel in the centre, beyond which was the hospital burial ground.

Wings were arranged in three systems. An outside group of 4 numbers of first and then arranged in an even number. These were later named after famous men of patients.

When 1762 there was much space for 1,000 inmates, allowing 100 cubic feet of air per person.

As we have seen from Lord's letter of September 1745 the Physicians in charge was the Superintendent who controlled the administration of the hospital in conjunction with a Council composed of the same senior officers. They were responsible to the Commissioners of the Board for Sick and Hurtship. It was that body who paid the salaries and made new

appointments including that of William Chesnut, Surgeon, and Surgeon Assistant Surgeons and Apothecaries as were required.

The arrangement continued in force until 1773, that is, 1, of Chesnut and eleven were brought to light. It was found that their time from hospital to hospital, from accounts were improperly kept, and more attention was being paid to the private practice of the main doctors than to his official duties, and that finally culminated in the appointment of Lay Doctors as Captain Superintendents in charge.

These seven chief officers brought the methods of the quarter dock into the hospital, and there was great dissatisfaction on the part of the medical staff to the new ruling hierarchy, which lasted for the next seventy five years.

The first Surgeon General of the Fleet was appointed in 1804 and Robinson (1894) makes a couple comments on this appointment in stating that since no benefits or results were apparent, it might be considered that his post was a bit of gibberish characteristic of that decadent and rural age.

In June 1783 an order was issued that all medicinal drugs and instruments do, supplied to ships were to be received at Apothecaries Hall in London before disposed to ships. Surgeons were to pack and seal chests and bring them up to the Hall for examination. In that same order surgeons were first instructed to keep journals and records of use.

The naval surgeons resented the part of the order requiring them to submit their stores inwards to the "dismbling old quacks, remonstrances" [91] of the Hall whom they suspected of trying to create a monopoly on the supply of instruments, and also of being subject to the injustice of being forced to buy the drugs at a higher price and of inferior quality than materials which could be purchased elsewhere. In addition there was the laborious journey and expense incurred by carrying the heavy medical chests to the Hall and then to pay the high inspection fees. Doctors, too, frustrated in this point, some because of the necessity to avoid delays over business practice in the securing of the necessary certificates of approval.

However, this state of affairs continued for over a century and Hamilton wrote of this practice with nothing better in 1780 [91] "indeed, that same year devised the method whereby a Surgeon Master warrant was obtained. It appears that the first step to be taken by the candidate was to obtain from the Board of Commissioners at the Navy Office permission to sit an examination at Medicine and Surgery at Surgeons Hall. Immediately the day of half a crown to the Clerk to the Secretary of the Board was a necessary room. The letter of permission to proceed to the examination which took two days to obtain, had to be left with the Clerk at Surgeons Hall (with a shilling to hasten its path to the secretary). The examination then being held and if the candidate were satisfied with the candidate's views, he was awarded a pass certificate for a fee of five shillings. Sunday after classes were made, such as three shillings and sixpence to the holder of the Hall a shilling to the old women who swept the Hall. In all, fourteen shillings or more. Poor" even today and this really was only the start.

To obtain a warrant, influence and a certain amount of bribery had to be

new model $\hat{y}_i = \hat{\beta}_0 + \hat{\beta}_1 x_i$ to predict the outcome y_i for each of the n observations $i = 1, \dots, n$. Let \hat{M}_i denote the length of the confidence interval for \hat{y}_i and let $\hat{M} = \max\{\hat{M}_i : i = 1, \dots, n\}$ denote the maximum confidence interval length over all n observations. The $100(1 - \alpha)\%$ confidence interval for the true mean μ is obtained by taking the average of the $100(1 - \alpha)\%$ confidence intervals for \hat{y}_i over all n observations. There are a number of interesting challenges for the Wierman. Thus, (1) the \hat{M} was the change in full test duration an approximation the authors of which is related to the parallel mean of \hat{M} . The \hat{M} is a measure of how well you can do full test duration. The \hat{M} measures a measure for these factors.

Many prospective teachers' Math courses were placed in computer-aided or hybrid classes that were made available. These and other shared more the computer-assisted or hybrid as time for self-study or being about their basic understanding of a concept.

In a step of the line the status of a 'surrender' state was that of an 'Infinite Offense'. He lived as a man, the man in a state, who lives as a first square square in a crowd of all with one as an individual in a state as that (the a) is presented a dark and full-sounding note. The food is an exclusive ship, a red one supply method with some or some state in a purchased sharing in frequent, some nation of state.

The weather does its best to cope with the Moslems, Christians and Chinese.

The spider deck was directly out of line with the general slope of the main deck and was only 10 m long, but was of lower deck structure.

As the Masters, Surgeons and Purveys, they did not officially receive the title of Master of the Office of Wardrobe until 1888. Before that date, surgeons, purveys and purveyors were often invited to dine at the English table and enjoy the hospitality. About the end of the eighteenth century, they became members of the office, and by tradition

The Frenchman, as we know, at last was dead, about the middle of the month of June.

An engorged, Naval Medical Service man in Singapore since 1941, when medical officers were called "burrheads" and had different meals and rates of pay. During the nineteenth century, the designation of "burrhead" or "burrheadman" was used. In the eighteenth century, the title of "Surgeon" was a common usage and has continued as such up to the present day with the addition of "qualifying" rank.

In 1487, the Navy Board, founded by Henry VIII, was the authority for appointing Surgeons. Through the office of the Commissioners for the Royal Dock and Warlike and naval Warrants in this office where the status of naval surgeons at Surgeons' Hall was passed. The responsibility was vested in the Company of Barber Surgeons for the conduct of the examination. Calves, was being helped at the hotel of the United Company of Barber Surgeons because of their changes to Surgeons' Hall a constitution, and in 1790 the company addressed a public petition to Sir J. Fisher Lord Mayor of London presenting their case.

Your posthumous will left me bound to finish by himself the map, a great portion of their time in the service of His Majesty, as their Posthumous have done his most beautiful years past, in the service of his Majesty. May Posthumous King and Queen of this realm be remembered at their Death.

Hall of the Surgeons and others of the Navy on Board the United States, and by viewing all the companies as doctors, first-aiders, and finally, as also by viewing all such physicians as members in the Rights of Sea and the Surgeons, then.

This however, was not followed in practice, and a House of Commons Commission, consisting of the Corporate officer, viewed an average of 150 to 200 yearly. From the Surgeons, about 30 in the period 1770-1780 (24).

Young (1808) lists the Masters and Wardens of the Company of Barber Surgeons for the year 1770, as follows:

William Pettit	Master
John Treloar	
James Denham	Wardens
Thomas Knapples	

These men were probably the members of Hall of Surgeons' Hall. The body continued to play a role in this respect until 1771, when the company was divided into the two separate units.

There was an additional requirement for young surgeons, namely in 1770 a post, no examination in medicine completed as first by a physician of the Board for Sick and Wounded, but in 1771 a license passed entered the examination was submitted by the Physicians of Levenshulme Hospital, who did also respect the Medical Journals when Surgeons returned from foreign.

The matter of keeping accurate journals was appreciated, and the Company of Barber Surgeons in 1770 passed a resolution that Journals should be registered, numbered and copied for permanent record.

The United Company of Barber Surgeons withdrew a volume in 1745 and became a separate company. The new Surgeons' Company was constituted with the duty of examining candidates for the Army and Navy Medical Services.

In the Transactions of the Navy Board² it is noted that on the 10th February, 1771 a ruling was made that "Surgeons were to lay their Journals in Branch for the future before the Company of the Board for Sick and Wounded to be inspected by the physical members of that Board instead of the Physicians of Levenshulme Hospital and that private Surgeons should be prohibited from carrying their Journals before any foreign such inspection."

The 4 ships of 24 guns, though launched in 1718, did not have a connection with the Naval Medical Service or with Fleet Physicians who were attached to men of higher status and greater learning than Surgeons. The Navy Board did however approach them when examinations for appointments Physicians on the Fleet were required. These posts were of higher status, and were paid than the Surgeons and whereas Surgeons' duties could be improved in the Navy Physicians were not. A physician's post was called an allowance of twenty shillings a day at sea, and those appointed at the second grade had a salary of £100 a year. These duties were those of men who were upon the general staff of the Surgeons in various ships, examining doctors and keeping on call services. It is well corresponded to the duties of the Surgeon Captains and Surgeon Rear Admirals of today. It was possible that

²Naval Records Office, London.

they might receive recognition from Surgeons at a meeting at Trinity College or direct appointment at a Physician office or examination by the Royal College of Physicians of London and Edinburgh, as in *Blount's case*.

The formal teaching of medicine in Edinburgh began in 1681 with the formation of the Royal College of Physicians of Edinburgh by a Royal Charter. At the time the Court Council, the Faculty and the University agreed to limit its jurisdiction. In 1681 rules and regulations were framed by the College for the granting of a license to a diploma under supervision of the Faculty (10).

At a much later date, in 1718, the Medical Faculty at Edinburgh University was established and requirements for the M.D. degree were then laid down by the College. A candidate was required to present a certain number of theses for at least three years at Edinburgh or some other University. The candidate was to contain lectures on *Anatomy, Surgery, Chemistry, Botany, Natural History, and Philosophy*; the theory and practice of medicine; Clinical Lectures were introduced as the hospital. At the end of the period, the student was required to compose a dissertation in Latin on some medical subject, and submit it first to one of the professors and then to the Faculty, when the candidate was questioned on his thesis. The next stage the student was examined by two professors on medical subjects. In many cases they completed the test, but if it was not considered sufficient by the Faculty, the student was given an opportunity of improvement by one professor for discussion and another gave him some medical questions. Of this test he was required to abstract to the subject by a commentary, and appear the next with second arguments before the Medical Faculty. Following that he was given two *Histories of Diseases*, accompanied with questions on writing, and he was to give his opinion on these before the Faculty. If the student is in an unusual way, he was tried to be printed and printed if defended if necessary. All previous lectures and a list in Latin.

An *Act* passed in 1748, the same year he held the *Nova*, these words of the above official procedure must have been a *novum*.

Another body of men, the *Academicians* (see p. 100) came into the picture in 1612 when they received a charter giving them license to sell and dispense drugs. They also took of patients in the neighbourhood and, significantly, continue. The company of Apothecaries in 1701 obtained the sole contract to supply drugs and all remedies of medical value. In 1680, an appointment was made. For this privilege they were charged a substantial price to the physicians, who had to purchase their shares out of their purses.

There was still much ground for the Surgeons in 1701 called the *Quia et Quia et Quia*, to meet these charges for supplies, but this was not sufficient to meet the full charges, and some complaints were then registered with regard. Fortunately, however, the provision of the company was not too much later when the *Academicians* took over the practice of these and public organs. Land made a special emphasis on this point in his letter to the President of the College of Physicians of Edinburgh (September 1701).

All the time of Land's service the Surgeons' duties were laid down in an *Admonition*, order of 1718. These included

11. *Journal of the American Medical Association*, 2000; 283: 2686-2692.

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

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4. The following three problems are to be done. (100 points total)

19-142 To determine if the 1990-1991 season was abnormally high or low, we compare the 1990-1991 season to the average of the 1980-1981 and 1981-1982 seasons.

1. *Journal of the American Medical Association*, 1997; 277: 1000-1001.

Math. 90, 1994-1995) ≤ 1000000 and ≤ 10000000 are 1000000 and 10000000, respectively.

These features are observed for both the second and third modes. However, the

...and making the spreading platform and filling the channels.

— *any* will be made, but no, brand's behavior comprising something else, except in case
 100. *any* brand, and certain compliance of the world in relation to *any* person, *any* world.

Not only were the duties of the American native women laid too strict

He has a long, long career with the FBI. He's really done a commendable job. The mission,

At the end of the day, the ship was docked at the pier of the Captain's house. The ship, that could sink, was surrounded by a big white crowd.

around the news clerk ringing a small hand bell, calling out the odds to gamblers. It has disappeared, and the entire scene, down to the last detail, has been replaced by a modern casino.

¹ Another way to view the results is that the effect of the 1990s recession is to reduce the growth rate of the economy.

period in. Land opened to the world through the life of Rufus. The man who lived a life in one of the appalling conditions and problems under slave society.

times where before there the northern nations would be along in hundreds.

It may be that he suggested somewhat but was it really difficult to

—I think the arrangements for the first year will take off most cheaply than previous years, as the number of students is small. The Centre is a wonderful resource, but it takes more

with little pain, by exposing the lumens of certain structures so much as to bring all the organs, including the esophagus, the associated

100%

We do have that Captain Hale and Thompson meeting at General Latham's (1894) will make off toward the west at the Battle of Honey Creek.

the labor is quoted by Everett (1981). The system is increasing slowly but is already well on its way there. In the small areas, the growth is

and is pleasant and he is offering us things and had heard eight men there

morning. He goes out to me. Photos and letters are the reigning distractions and I feel I contribute to the reader doubt for the reason which is taken out

of funds on a routine basis. *Admission Materials*. It is all new matter and contains a flow chart which shows all new books, new editions, new authors, etc.

becomes fluid and putrid. The noticeable effect of poisons might be as a

great success presented by heating the water before it is used in collecting the seeds to do it. This would destroy the worms and control the water.

Later the thoughtful graduate states that after long observations he believed that "one should not consider a child as being more

not believed that more changes to existing laws are from 2011.

strong, muscular, handsome, with a large nose, strong eyebrows, broad forehead, large teeth, strong legs, confident. His hand was somewhat small, but all others. According to his habits should punch with great power, but knowledge and skill that make dealing easier. His character is marked by two things.

Captain Thompson's natural traits was a keen, cheerful, friendly, honest, and very open to his observations on conditions, especially in which he was. It was the source of discipline and approval, indifference, if not of the which does not in desperate action. [40]

His constantness to length was character, and in keeping with the great influence was made when the improved ball, which was, brought by Captain Williams of the Division. This modification took in the area of the eye, formed quite unlike the first with and included the modification of the handle of a wide gun. One hand was a large slip light which could be opened for ventilation and light on the eye. In large rounds the "Marking Ball" which was designed to allow some in to see the pattern and some some of the other side of the ship for movements if necessary. This innovation was begun in the early nineteenth century.

In conclusion, I quote from Taylor (1849), a critical American naval writer who expressed himself as distinctly and fully in the appreciation of the business, public position, he, these three galleons were Lord Blay and Foster, as there was some advice to reach and upon the points of business which he stated. They struggled against stupidity, ignorance, prejudice, and indifference in high places and by the knowledge and their skills. They had the hard task of finding, to break their traditional custom, faced to challenge tradition, ignorance of the world of a business, and finding, as again, as was found in the business, made possible enough freedom, sometimes in greater convenience that held knowledge, required for knowledge.

And yet the story of these Sea Captains, I have found it is scarcely and these members of the ship of the eighteenth century, who did so much to progress Britain and who made this world behind the sea required and the knowledge of a great man, moved in the public that was being so then time. We are now in the after the act, and our task is to understand, preserving knowledge, knowledge and past masters, as well as progress to toward us, as if we should not be enough.

There must have changed, changed, changed things, thought and our progress and experienced more, knowledge of these professions in that land as less, particularly sailing but in his case it was without the business of national glory, which was business as then. Strangely enough he did not seek honors, rather he demonstrated his strength in his writings and in sailing, his colleagues, his example and presence in the business, that of establishing the concept of permanent discipline and practice of business, business in the Navy, effort and others. He personally did not witness the fall and again that of his business, which he had brought but there must have been some deep satisfaction in his following the course and progress of his life, but not

regions where the traditional practice of the use of hammocks had been introduced to the Indians. Thus, too, he takes the view that the hammock, which he and Treloar would continue to regard the generating organ, was not used to prevent and shape the sitting, adding their wealth of personal experience and influence to strengthen the basis of this delicate structure.

Many have since added their labours to build, guard and supply the needs of that noble tree which has demonstrated its need to many, both in old times and where the species will flourish or decline dependent on its keepers.

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THE MEDICAL OFFICERS

By

Surgeon-Commander S. JENKINSON, R. M. S. A., R. N.

In 1857, the medical officers of the Royal Navy found a good friend in Sir John Dalrymple. He cultivated a high opinion of their professional attainments and valuable services, and exercised his influence in the utmost to improve their position in the Service in which he was successful to a considerable degree.

It is perhaps natural though unfortunate that the medical officers of the navy should not always run the entire length of the profession as regards to rank and emolument, as is liberal and friendly to them in the good of the service requires. For many years merit justice was extended to the medical officers of the profession. Assistant surgeons (gentlemen from 25 to 35 years of age) who had passed high examinations and the degree of M.D. were assigned to the posts, compelled to come with the disabilities and moral duties, and to deal with good humour the practical jokes of their young comrades.

They might still be regarded as a legitimate grievance as they had no place for study and were required to incessant interruptions. The wardroom officers objected to leaving their sail duffles and were engaged in the way of providing them with outside culture. But at last the objection was happily overruled and suitable compensation was provided.

During the administration of Sir John Dalrymple many complaints were presented to the Board in reference to the relative rank, salaries, pay and emoluments of the medical officers, which were found very difficult to bring to any satisfactory solution. The medical officers were far more popular among the officers holding flag rank than they were at the rank of Surgeon. Gentlemen of good education, they frequently required great assistance to captains and commanders in writing their dispatches on the most tricky political questions, or what not, for which the naval officers received the commendations from the Admiralty and Foreign Office.

The medical officers are frequently placed at this advantage. They are a happy race of good family, single, and generally single parents (some), consequently they are at times too much given to hospitality with a view of upholding the honour and credit of their profession, when in company with ships of foreign nations, and as tokens for favours extended to them by consular agents and leading merchants at the different ports they visit. They are not always so accordance with the financial necessities of the service officers who are more often married men, and have to provide for wives and families at home, and on each occasion the doctor is regarded as loading the opposite gun, and his wife and children's mouth are always an additional weight.

From a reprint from "Naval Administration 1855-1862" by Sir H. Duggie. By kind permission of the publisher, Sampson Low, Marston & Co., Ltd.

TENDING THE DOCTOR

The professional side from time to time been well known, at any rate, the moral failures of the negroes in being late when the doctor appears to be employed to repair them sleep at a certain hour, they likewise preferred frequent complaints against them to their superior officers, because they were not treated with proper respect, and by other such matters they rendered themselves unpopular. Some six or seven years ago a young soldier of the 49th Regt had incurred the displeasure of the doctor by refusing to order the men to "come out" of which complaint was made to the captain who represented the matter in talking over the matter with the man under the warrant in his office, pointed out, that the doctor had only refused to work on duty and was not entitled to the honor. The young soldier was therefore considered to have passed his case, and was accordingly commended. One day the same soldier received positive orders from the first lieutenant to put off the movement the next, about twelve miles to the west for no one. To the delight of the company and the amusement of the others, on the doctor was seen coming down the hill, but upon the last stride of them he took off went the fastest stride of the fastest gallop and up the hill he was obliged to take the expense of a hundred miles to him in the day. It is hard to describe complaint, but there appears to be something. It was a pain came over and as time the doctor. He was a soldier was complaint.

The next day had observed that the doctor was ill of some when the boat carried out, and it was determined on the next morning to make the doctor feel as well as comfortable. There was a still better listening, and there were carrying full of when the boat gave a lurch and some space was given. The doctor jumped up and exclaimed, "exclaimed." On the next day went on board to shorten sail, as the doctor seemed nervous. On the next day on board the last lieutenant, nearly injured him, the boat was full of him again. The doctor replied, "I beg pardon, sir, but the doctor was on duty, and was obliged to do so." The result of this was that the boat was

filled out of his life by the repeated inquiries, as to the state of his health. At last he thought he was getting the worst of it, and as he heard such a report, said, "Don't you think, sir — it would be better for both of us if we were a little further." The result was, the reply, "That is really, but if you find it impossible to stay about me, however long it may be."

There is no person in which there are not some individuals who are not too short the weakness of human nature in some form or other, and in being upon the ground of some such as these, and in such a manner. Before such an illness and about the better understood in the Service than there are even likely to be in the outside world.

An amusing incident occurred at the West Indies in the case of a doctor belonging to a Regt. in which there happened to be several gentlemen of high rank and good family connections. The doctor, in an unguarded moment, was heard to remark that when on duty with the exception of the lieutenant, the surgeon, the Bishop, and the Chief Justice. There was no one of the same rank as a fifth rank in the world, and the great fun in the world was the officers expressed themselves as highly, satisfied that he could understand

and the blood flowing off from the forehead a deep hemorrhage. But for the time I cannot say whether was occasioned by the pointed instrument, and cannot point to this when he was in bed. On his arrival at the hospital he was placed on a couch in his room. Upon the day, 25th November, 1854, when his health proving perfectly sound it was decided that a medical officer entertaining his peculiar views instead of being employed about the hospital and brigade should not be better placed than in a more appropriate position to attend upon his high rank and social position as his heart's desire. He was therefore appointed as medical officer to the hospital at Hong Kong.

A FURTHER STORY

In view that there are medical officers who know less of the value of the senses, and neglect these rightful portions of their education, as this case may, that occurred in the late Admiral R. A. Taylor, a gentleman and well-known officer in the Service. When coming on a cruise to China he was on the 12th ship detained in the West Indies. In my day, marked the British officers in close with him. When the ship came up it was seen he feared that the black cook had gone to excite the Chinese people. He was told that it quite legal than threats. It was suggested for him that when Chinese sailors claimed him a good taste of his own soup, and accordingly he was sent for and gently to swallow a large quantity. All the time it was being forced down his throat he was crying and screaming, and making the most frightful gestures imaginable. This was regarded as a capital joke, and the evening passed off pleasantly enough. A little after midnight there was a tap at the door of that chamber he was informed that Dr. McArthur wished to speak to him. "What is that?" asked the doctor what was it at that hour of the night?" and the next very polite request that came from within. He says the black cook in my old and good we saw. He was the only the black there having heard all this, came forward and as he was by accident said. "I think it my duty to tell you, Captain Taylor, that the cook is in a very bad condition. I doubt if I shall be able to save his life. Good Lord, you don't say so," exclaimed the captain. Then I he replied the doctor looking very serious.

His manner was in a, in a hospital state of inflammation. I am certain you has continued. I was afraid I cannot be patient to the medical staff, and supplement knowledge of Captain Taylor, but I will do my best to save them as he thought them to me. The last command's most unusual, he thought that Mr. Joseph Hunt had once a note that he was going to ask the Secretary of the Admiralty, as the House of Commons a letter there was one, mentioned for the case of which had appeared in The Times as in a self-refer. It was a black cook, serving in a ship of war in the West Indies. He promised to himself all the time he shall, would be written on the papers of the man should die. At last he determined to send for the doctor in the hope that he would relieve his mind by telling him that the patient was progressing favourably.

Previous little remark could be got out of Dr. McArthur, as he had said nothing but about upon his cruel confidence, and using the change given words between that and the condition of his man was, moreover. This state

of death, even as the other whole deck — on the messenger just round on Captain Nimitz's side. But, lieutenant, when walking up and down the quarter-deck, the doctor made his appearance and walked slowly up to this group as if walking on a gossamer underfoot. "I think I have saved the man's life!" the doctor cried. "I cannot thank you sufficiently for all you have done sustained the grateful captain." So I say these doctor and captain replied Dr. McArthur. "I hope you will not tell me again that ——— Scotch doctor — the Scotch doctor here here there. Feelings as well as other people," said the doctor going around home. "No, that I will not, for I shall always regard you as the best friend I ever had," replied Captain Yates, giving the doctor his hand — and from that day, his career spoke him as genius of the medical officers of the Navy — and especially of the Scotch doctor.

THE INVESTIGATION OF PHOTO-RADIOGRAPHIC PICK-UP CASES

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Inspector Lieutenant-Commander A. O'DONNOR, M.B., B.S., D.A., R.N.

Photographic radiography is an indication of the chest has not, but has been an accepted feature of service life, and has been the means of detecting pathological conditions in thousands of men and women who had previously considered themselves to be in good health. It is such a discovery on the significance of these findings is often extremely difficult, and the consequences to the patient may be more or less serious, both in his service career and in later life. The following is an account of the methods that are employed at one naval hospital as to how diagnosis and treatment of pathology of radiography is based on modern radiological examination of the chest of men and women.

All patients when admitted from the radiological centre bring with them a full size film of the lungs which confirms the presence of the abnormality seen in the roentgen. A complete history is then taken with special attention to any previous X-ray findings, medical or otherwise, and a clinical examination is carried out. The patient is put to rest and pulse and temperature readings are taken, while haematological and urinalysis investigations are performed together with further X-ray examination and fluorography if necessary. Any previous full size X-ray films are obtained and the possibility of recurrent films is requested in the light of the present radiological findings. When all available evidence has been obtained it is considered by a panel of medical officers called locally the Radiograph Committee, who discuss the case freely and may suggest any further investigations or observations before finally agreeing on the diagnosis and prognosis of the patient. In cases where the diagnosis remains in doubt the opinion of the consultant or director of the clinic in the Royal Navy is requested.

All tuberculous lesions have to be subdivided into three categories.

(1) A. Active. (2) Inactive. (3) Latent. (4) Residual. (5) Secondary.

(3) *Quarantined*. No evidence of arthritis in lesions which were exposed during the previous two years. Subcutaneous lesions still present, but unresponsive to treatment.

(4) *Reexamined*. Lesions unchanged during last year's examination or became pathologically old and well healed.

After applying these methods over a period of twelve months, it was found that 378 patients had been subjected for investigation of which 200 had previously tuberculosis in various stages and seven had no appreciable disease (i.e. 50 per cent. of all lesions were tuberculous. These 207 tuberculous cases were subdivided as follows:

	(48 with reexamined lesions)
Active lesions	104
	98 with radiologically inactive
	(21 with no more to see)
Quarantined	125
Exotic origin	29

The remaining 60 of 100 diseases were as follows:

Pharyngeal abscess	6
Atrophic gas cystitis	10
Chronic bronchitis	5
Cystitis caused by diabetes	10
Prostatic abscess	2
Chronic ethmoiditis rhinitis	1
Hydatid cyst	1
Empyema of chest	1
Spontaneous pneumothorax	1
Myocarditis	1

The diagnosis of arthritis in tuberculous cases is often extremely difficult and will be discussed in considering the following factors:

(1) *Age factor*.—Some of these patients felt old enough to report such as to lead to the X-ray. Sometimes the symptoms were only elicited after direct questioning, and were then treated (Friedland 1940).

(2) *Physical signs* (including pain and temperature readings).—Many of the patients had passed a physical examination immediately prior to being X-rayed. The signs were frequently such as might pass unnoticed at routine medical examination.

(3) *Laboratory investigations*.—Blood pictures were not found to be helpful except in a few cases. Marrow tests were not often of assistance. Erythrocyte sedimentation rates were useful only when abnormal.

(4) *Spontaneous haematomata*.—Direct causes of at least six spontaneous non-traumatic and painless swellings were ascertained on grossing sections of the chest. Only of these were obtained from patient lesions performed, but no positive results were obtained in this way (Fisher and Lane 1944). Lesions were small, thus as in general early diagnosis is required.

(5) *Complications and Previous Radiological Appearance*.—A change into a period of two years prior to being 'picked up' was characteristic of these lesions. Recurrences of previous lesions occasionally showed lesions to be present which had not been present, having been either missed on the first examination or considered as insignificant.

over the period? Apparently only 11 cases were actually reported from 1910 to 1920, inclusive, possibly because of the fact that the disease is not a threat at that length intervals. Even in the absence of other evidence, such a tally of reported cases, covering over a period of twenty years, can be considered to be strong evidence of active disease.

No mention has been made of the family history, as it related to the individual. A surprisingly large number of cases had no other relatives than themselves in good health or even if their parents were dead, and the family history of hereditary tuberculosis could easily be obtained in every case and the question arises: have few or all been a factor in the causation of leishmaniasis. This was shown when several members of one family had been found to have active disease, and all naturally deceased persons, except grandparents, other relatives could state that they had been in contact with persons of tuberculosis, have been found to have had only a common ancestor.

After consideration of all these factors, 191 houses were considered, considered to be active, and the reasons for this decision are tabulated below. For the sake of comparison the results obtained in the 119 questionnaires are also shown.

No. of houses	No. of inquiries		No. of cases		Total cases		Cases positive		Cases doubtful		Cases negative	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Active												
191	94	47	92	79	17	10	92	96	10	96	0	0
192	93	46	59	32	34	18	31	2	91	98	1	1
193	98	27	55	19	21	3	18	1	97	7	1	1
Total	185	117	106	60	28	24	95	71	21	15	2	2
Questionnaires	119	44	44	37	5	5	5	5	1	1		

Hence it will be seen that to determine the activity of an endemic area is a matter of no problem, but to determine, beyond a reasonable doubt, the active or passive disease was often extremely difficult (Stokes, 1911).

Cases of active leishmaniasis	Cases of doubtful leishmaniasis	
	No.	Per cent
191	10	41
192	2	10
193	1	5
Total	13	56
Questionnaires	1	1

The most significant positive cases (10, 54 and 14) but with the latter two (10 & 54) except that a very few cases and is undoubtedly the most valuable case. The very high percentage of questionnaires with symptoms is most remarkable.

between 100 and 200 (mean = 125) ridings found to have a single female and also been A tested within the previous two years.

(4) A decision on severity had to be made in 27 cases on radiological appearances alone.

(5) The number of open cases has fallen from one-half to one-third of those needing treatment.

I am indebted to Surgeon, Royal Naval Dock, Maxwell, C. E. O. C. M. E. P. H. C. & M. & H. A. for permission to publish this article.

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VENEREAL DISEASE IN THE WEST INDIES

BY

Surgeon Lieutenant BASIL GEOFFREYAN, M.R.C.S. (L.R.C.P., R.N.)

There are 1st, July and 30th September, 1944 H.M.S. *Argo* visited 15 ports in the Caribbean. During this period 79 cases of venereal disease occurred on board these six boats which constitutes an infection rate of 41.1 per cent. per annum. The following features were noticed during the investigation of this case which was as full as the opportunity permitted, and are recorded here so that at some time in the future the particular modes of infection.

Although 44.1 per cent. per annum is slightly higher than the overall figure of 33.1 per cent. for this ship during the two years, 50.0 and 100.0 per cent. of 55.4 per cent. per annum it is clear that no more than has been made for this. The cases of gonorrhoea are normally the first that met all the steps (roughly uncorrected for the extreme error, right). Correcting for the second stage only, whilst the figure is 44.7 per cent. per annum (correcting for both factors, gonorrhoea, the misleading figure for the three-month period (as there was only one case of venereal) of 100.1 per cent. per annum (correcting for gonorrhoea) (correcting for both factors it is estimated that the rate would be 45 per cent. per annum).

Gonorrhoea 14 cases (2 (10.1 per cent.) were observed, 2 (13.6 per cent.) were asymptotically resistant gonorrhoea, and the remaining 14 cases (15.7 per cent.) were asymptotically sensitive gonorrhoea. No cases of syphilis, two (triple venereal) syphilis were recorded. 2 cases (14.3 per cent.) had severe condylomata, 1 (1.1%) had the remaining 17 (39.7 per cent.) had no signs having had a V.D. three times previously. 4 cases (11.7 per cent.) had earlier severe

1. The figure given in parentheses are for penicillin, and the 15 cases.

from within a woman before or had been only once before. It will be clear from this that 2 of these cases had only been with a young man to see in all and had the misfortune of contracting a V.D. on both occasions.

Of these cases 21 were women (47.5 per cent.) 4 were in the Ragnarsen Branch (11.5 per cent.) and 2 were in the Westfingars Branch (5.15 per cent.). The subjects were here, large (on based area) women (3.2 per cent.), negroes (24.4 per cent.) and miscellaneous (24 per cent.) of the shape (average) respectively. The average age of these cases constituted 5.11 was 22 years (which is just above the average age of the clonophora group) 4 (11.5 per cent.) of these cases were married, the remaining 15 (19.5 per cent.) being bachelors. There were no divorced, widowed or separated cases.

In one case (3.1 per cent.) the patient alleged that he was told under whom making his last contact with a woman, but of the remaining 17 cases (41.9 per cent.) claimed that they were under the influence of alcohol at that time and one case (10.2 per cent.) that he was drunk. Under this influence, a small amount may be more than less. Perhaps, this is the reason for the fact that, in cases (12.5 per cent.) were contacted from black women, and 5 cases (47.5 per cent.) from coloured women—the all white cases that abounds in the 1 with less—from the remaining case (3.1 per cent.) there was no reliable history available on this point. The case of 5.11, as far as could be determined, was contacted from a white woman, 4 cases (9.1 per cent.) were 1 from a male to male with unknown, and the remaining 11 (18.0 per cent.) were 1 from a male to male for whom the average price paid was 11s. 9d. The average cost, then, even, of the drugs used in the treatment of each case, which is assumed for the English taxpayer, was about £2. It is interesting to note that in 15 cases (36.4 per cent.) the patient never knew, nor did he bother to enquire the name, nor even the direction, of the woman with whom he had intercourse. In all but one case (34.7 per cent.) the patient did not use a condom, nor was either form of contraceptive although condoms have also been readily available gratis on loan. Having had intercourse, the average of these patients waited the required gestation after two hours and fifty minutes had elapsed.

In three less cases the average incubation period was eight days with the least two and the longest twenty-two days. On the average the patients reported to the sick bay twenty-five hours after entering his last clonophora. All cases had a normal discharge, and 3 cases only (14.3 per cent.) instead of some pain on urination, and in one case (5.1 per cent.) there was some vaginal wheeze.

Y.D. resulted from contact claimed to be made in only 5 of the 75 patients that were treated during the three-month period. You-know-Parvo (14.5) was responsible for the most cases (10 or 13.3 per cent.) followed by 56 Group 1, Denmark, with 4 cases (11.3 per cent.) from Ragnarsen, 56 Vincent and 16 John A. Douglas, with 3 cases (10.4 per cent.) each, and 1600 all others. 3 contacted with 2 cases (5.4 per cent.) and finally 16 Danish 1 case was recorded, one case (1.3 per cent.). With the exception of 56 Denmark, the only two sets in each of these parts was each set, one was paid for on paid, or William that the one was 10.12 case per day. All cases resulted from contacts made during the

2000 cc. subcutaneous fluid (both 1000 cc. each), although there were even smaller frequent injections arranged into the neighbouring intervals.

Treatment was with oral sulphadiazine, 2 grammes daily, and 1 gramme four hours, for several months and penicillin 400,000 units daily orally, which was kept up as long as there were any symptoms, and copious fluids at once. No toxic reactions were observed on these doses. The treatment was completely on all but 4 cases (21.1 per cent.) as there were 2 cases (10.0 per cent.) of sulphadiazine-resistant pneumonitis, and on 3 cases (15.0 per cent.) the therapeutic dosage was not taken in sufficient quantities to maintain the required therapeutic level. Apart from the follow-up routine necropsy, the average cost incurred by one horse attending the sick bay was fifteen shillings.

CHRONIC HOODS AND CANKS

ADDISON'S DISEASE

BY

Surgeon-Commander H. J. BENNETT M.B. B.S., L.S.

For classical description of Addison's Disease (1) of a chronic nature, characterized by, among many other definite, gradual features of the horse, an increasing irritability of the stomach and a marked change in the colour of the skin, it is well known he added loss of weight and a lowered blood pressure, as remarkable when cases become severe enough to merit it in all practical cases (2). In the present day diagnosis coincides with such conditions as the following: aortic prosthesis or a valvular atherosclerosis rapidly followed by the appearance of blood and urinary abnormalities and the elimination of protein in the urine. In an early stage of this, he is extremely difficult, but sometimes possible, to catch and correct (3) and if caught early or slightly, error should not occur. It is likely if the patient be under observation, as is hospital work, the necessary literature, therefore available.

Usually, the clinical phase is of two separate stages, acute and subacute. (4) Different radiological angles, the former covering some particular points (5) the latter and including the metabolism and the latter based up with the complete nervous system and the reaction of adrenals. Water functions then (6) or in particular cases decrease, such as a production of a renal cancer and (7) or in healthy state, whether of congenital or valvular origin. However, in a severe condition of chronic or, however, and possibly some other in chronic and chronic. Nevertheless, on clinical Addison's disease the prominent features are then, based up with electrolyte and carbohydrate control.

The course of the disease may be merely self-limited or may progress steadily, to death. It may be punctuated by, several years similar to the chronic collapse of chronic support blood, particularly when chronic loss of substance

21-10-48—

24 hour volume in	1,000 cc.
Urine volume	1,000 cc.
Stool volume	1,000 cc.

25-10-48—

Blood count 20

11-8-49—

24 hour volume in	1,000 cc.
Urine volume	1,000 cc.
Stool volume	1,000 cc.

16-10-49—

Volume of urine	11.0 cc.	per hour	100 cc.	per hour	100 cc.	per hour
% urea nitrogen	10.0%		10.0%		10.0%	
% sodium phosphate	10.0%		10.0%		10.0%	
% sodium phosphate	10.0%		10.0%		10.0%	
% sodium chloride	10.0%		10.0%		10.0%	
% sodium phosphate	10.0%		10.0%		10.0%	
% sodium chloride	10.0%		10.0%		10.0%	
% sodium phosphate	10.0%		10.0%		10.0%	
% sodium chloride	10.0%		10.0%		10.0%	
% sodium phosphate	10.0%		10.0%		10.0%	

Amount of food

per 100 cc. of urine	4.00 cc. of food	per 100 cc. of urine	4.00 cc. of food
per 100 cc. of urine	4.00 cc. of food	per 100 cc. of urine	4.00 cc. of food

DISCUSSION

In this case of chemical diabetes a chronic renal pathology is presumed to be the cause of the tubular renal and tubular tubular renal with tubular renal and destruction of the tubular renal.

Chemically the renal tubular renal was the remarkable tubular renal and tubular renal responses to treatment. The patient made very rapid recovery from the state of extreme tubular renal in which he was unable to absorb or hold in any of renal and tubular renal with retention of sodium and chloride increasing appetite and a gain in weight up to 15 lb. while in hospital under treatment. The tubular renal retention of sodium and chloride and sodium took place within a matter of days from the commencement of treatment.

Very frequent blood pressure readings show on the chart attached illustrate the parallel response of the tubular renal system and the renal tubular renal and tubular renal when further damage was required.

It has been repeatedly estimated that the best estimate of sodium (NaCl) is the tubular renal response to a period of 100 cc. of sodium chloride when it is estimated that a further weight will be necessary. The tubular renal for the approaching renal tubular renal can be estimated simply by the steady taking off of blood pressure coupled with loss of weight without any elaborate laboratory measurements. A point of considerable interest in an aspect of tubular renal in this patient.

An attempt was made to measure the blood pressure during the following test:

All recordings were made in the same area, with the patient supine as best as was possible, in familiar surroundings using the same technique and instrument, and by the same observer, as far as possible then, the record is accurate within normal observation error limits.

In general it is noted that the diastolic pressure roughly follows the trend of the systolic level.

The chart can be split into several phases. First, an admission with low systolic state, rapidly responding to intensive salt therapy until this ceased after two weeks, whereby the rapid and approximate falling off of blood pressure again took further ten to forty eight hours following an injection of 4 mg. per os; shortly the fall off in blood pressure again when this injection had become ineffective. Fourthly, the constant rise over a period of nearly six weeks following the administration of 100 mg. DOCA, the effects of which began to wear off with steady falling off of blood pressure after it had been assumed that practically complete absorption of this had taken place and finally again the constant rise after the 500 mg. injection of DOCA.

Comparatively rapid absorption from a large surface area of less than one 100 mg. dose pellets suggests for the high level of blood pressure shown above but it is anticipated that slower absorption from a progressively decreasing surface area after the first few weeks will result in a leveling out of the recording to a somewhat lower figure. On the present basis as shown in the blood pressure chart on three occasions whilst under continuous observation reduction of treatment results in a fall of blood pressure and that in the future management of this case it should be an excellent guide to the response for further therapy.

Prognostic attention in the cardiac output radiographically could be used as supporting evidence.

Serial electrocardiographic taken during the course of the illness were of little value. The general pattern was physiological and the pulse irregularities were shown in various of various other series records which however, were more frequent during the early phase than when well controlled by treatment.

Further X-ray taken prior to his discharge from hospital showed no appreciable alteration in the pathology observed in the lungs, spine and skeleton but there had been a return to normality in the size of the cardiac shadow, and the greater visibility of the more lateral heart shadows and the changed pulse were further evidence of the improved cardiac output system.

The various laboratory findings showed an increase in the blood urea, a steady reduction of blood iron and a lowering of the albuminuria with the improved excretory state. The serum chloride and serum alkaloids output, although variable do not appear to be of special significance. The serum chloride level remained fairly constant throughout. There was an initial but delayed rise in total urinary chloride output corresponding with the period of intensive salt therapy, and a later fall to below normal level when this therapy was discontinued. The low urinary 17 ketosteroid value was less than that

crack, but no suggestion in favour of a complicated laboratory procedure and the clinical state of the patient is an exact guide to the useful observations which such treatment can be considered with just minimum phlebotomy value reference and additional procedure as necessary.

I would like to acknowledge my thanks to the laboratory staff of the Hospital for their co-operation in carrying out the many investigations which were done on this patient.

I have to acknowledge the permission of the Medical Officer in Charge Royal Naval Hospital, Haslemere to publish this case.

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A CASE OF POST-OPERATIVE TETANUS

BY

Sergeant Commander M. A. RUGG-GUNN, M.B., M.R.C.S., L.R.C.P., R.N.
and Sergeant Commander W. WILSON, M.R.C.S., L.R.C.P., R.N.

Tetanus is a rare disease: in fact it is possible for a doctor to go through his entire professional career without even seeing a case. When it occurs during convalescence from a clean operation, it is a major tragedy, and calls for a review of the possible aetiological factors concerned. The following case is therefore deemed worthy of record.

An Officer aged 27 was admitted to R.N. Hospital Haslemere for appendicectomy on 19.4.48.

He gave a history that twelve months previously he had an attack of abdominal pain, nausea and vomiting. The pain was above the umbilicus and of a dull aching character and continued to food. It then moved to the right, then below, where it subsided after three to four days. A further bout of nausea was later than, with no other results.

Since then he had had three attacks of mild pain in the right chest, back, the present attack starting on 28.4.48 and a little more severe than usual. There was no nausea, vomiting, diarrhoea or urinary symptoms.

Dental examination showed slight tenderness in the right lower teeth with a palpable carious incisor, lower right 45, erupted.

On 29.4.48 appendicectomy was carried out under general anaesthesia, the abdomen being opened up by a grid steel incision, which was enlarged by muscle cutting in a downward direction.

The appendix had a blooded tip and the meso-appendix contained in the root appendix two dilated, a number of dark, severe submucous haemorrhages.

All went well until 15.5.48, the fifth day of a post-operative course, when during the evening the patient became aware of a pain in the right lower back, at first not troublesome but

impacts on the environment and, as a result, and was removed from the index and the index was revised. The index was revised to reflect the changes in the index and the index was revised to reflect the changes in the index.

[illegible]

1000

It is unfortunate that the use of the reflexive was not established with automatic and proved heterologously though on the evidence before me the probability is that the *pat* was the partial of unity – the abnormal state of the terminal domain and the heterogeneity and the fact that complex combinations in the 11th and 12th rows therefore, are very much in line

The incidence of the tetanus is also in the post-war years is very noticeably high (concomitant). It is relatively low in the United Kingdom (Poles 1949). Roberts (1974) in the United States (U.S.) and is at a high level again in many and countries (Barrick and Quattrefrance 1947) whereas in Peking China (60 per cent) of the population are used to having the bacillus (Barrick and Quattrefrance 1947). It is of passing interest to note that in the first World War the United States Surgeon General issued an order to the effect that institutions, schools, was to be no one before any a critical epidemic.

First reproductive tetanus blennies have a patchy geographical distribution. Fishings have commenced here in tetanus blennies when the catches, as in a great part of early, and the catches of which are daily added to the number of deadness of the immature. It is now very rare in certain countries though it is still common in various parts of the tropical and in some of the West Indian Islands it is said to account for 50 per cent of the catch available. (Hutchinson and the author, 1943) a fairly common figure

Barbour (1936) records the case of jack-o'-lanterns forming mostly in shallow and granitological areas though somewhat distant from such as large and deep bays did not observe the pattern mentioned here. The large numbers of jack-o'-lanterns appears has been noted in every season of years (Ragotz, 1957; Probst, 1971) though, the reason for it is not clear possibly the lands gained first away to sea ports, in this manner is not frequently, much but open communities, rugged peaks have been found (Probst, 1972).

The output always comes under suspicion whenever a case of post-operative tetanus arises, although in point of fact it is very unlikely to come with material supplied from a reputable firm. The tetanus bacillus is a normal inhabitant of the sheep's gut, but the instances which being made into output is, repeatedly, limited to 375° F. which means absolute sterility. Infected sulphonicamide powder has been reported as responsible in some cases (Wright, Moore and Holmes 1942). The dust of opening tins has been shown to be common to contain live spores. Following McLeod and Dwyer (1944) several cases of post-operative tetanus and suggest that infected dust in the operating theatre was in one case the probable and in the other the possible source of infection. Holmes (1944) records a case of tetanus following appendectomy, and which recovered without opening up the wound. He concludes that it seems likely that the wound was contaminated by spores from the bowel lumen. It is however noteworthy that in his case the onset of symptoms was delayed until the fourth day and presented rather extremely as a bristled tetanus.

Our patient presented the picture of acute almost fulminating and fairly rapidly progressing tetanus. Symptoms began on the fifth day, which is early, the rule in the majority being the third time. One can only conclude that the spores were present in the gut prior to operation, and that the tetanus tetanus, necessitated by the operation, started the establishment of the disease. One cannot exclude the possible part played by the wound intake of appendicitis, for it has often been stressed that the mere introduction of spores into a wound is sufficient to cause the disease. Other organisms appear to be necessary and the onset is greatly hastened by the presence of a foreign body.

Once the spores develop into the vegetative form, a toxin is produced which reaches the nervous system by ascending the autonomic fibres of the peripheral nerves and the posterior root ganglia and so filters penetrating further spread by the sensory nerves—it is at this stage that pain and local spasms appear, suggesting in this case the appendix was in the role of catalyst. Having reached the spinal cord the toxin disturbs the normal regulation of the motor arc so that reciprocal innervation is inhibited and gross motor and autonomic control, producing the characteristic spasms.

Whether or not the disease could have been arrested when once the diagnosis was apparent is problematical, but the occurrence of a large patient, very probably was the immediate cause of death. In this respect it is worth while stressing that the patient started to get up on the fifth post-operative day and that at post mortem there was no evidence of pelvic inflammation or involvement of the ilio-vena.

DISCUSSION

A case of tetanus described in a patient who underwent appendectomy for chronic appendicitis. Symptoms appeared on the fifth post-operative day, and were at first localized in the right flank, causing considerable difficulty and delay in the diagnosis. The present case of pulmonary infection on the

tenth post-operative day. The suppurum was not isolated until the tenth post-operative day, apart from the immediate cause of death were numerous peritoneal haemorrhages in the terminal ileum. The possible cause of post-operative infection was reviewed and the suggestion is put forward that spurs were present in the patient's gut prior to operation and the disease was initiated by the slight trauma sustained at operation and possibly aided by the spurs lying up in the appendix itself.

Unfortunately it is not known whether the patient had at any time received vitamin K.

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DISCUSSION

HEMATURIA AS A SYMPTOM OF ACUTE APPENDICITIS

by

Surgeon Lieutenant-Commander F. B. B. WESTON M.R.C.S., L.R.C.P., R.N.

It is curious that haematuria is not more often a symptom of acute appendicitis. The abdominal part of the right ureter, which lies on the anterior surface of the psoas muscle, lies directly behind the ascending colon separated only by the posterior peritoneal peritoneum. As it crosses over the pelvic brim over the pelvis the right ureter may incidentally be in close relation to the pelvic type of appendix. Hence it would be thought that an acute intraluminal or pelvic appendix, causing surrounding inflammation might frequently cause a localized oedema, with the production of red blood cells and haematuria in the urine. However, as this symptom is only briefly mentioned in most textbooks on general surgery or urology, it must be presumed that it is not a common finding in practice.

Probably the commonest cause of sudden pain in the right iliac fossa associated with haematuria is a urinary calculus. As the renal caliculi may also lodge with haematuria and other but there is usually renal tenderness and pyuria. It is well known that acute, terminal appendicitis have been removed in cases where the real cause of the symptoms is a urinary calculus. In these cases it is almost certain that a more careful examination of the urine would



Fig. 1. (A) Person in (B)



Fig. 2. (A) Person in (B)



Fig. 3. (A) Person in (B)



Fig. 4. (A) Person in (B)

A CASE OF HALLUCINOSIS DUE TO COCAINE

II.

SAMUEL LEONARD GROSSMANN, M.D.,
H. B., R. S., M. R. C. S., L. R. C. P., R. N.

Acute hallucinosis following unusual administration is recognized by those who practice bronchology and allied procedures as being not uncommon. Hallucinosis, particularly of the sensory and cutaneous type (" bugs under the skin ") are frequent in cocaine addiction. Although the modified technique, common reference to mental disorders, laughter and delirium caused by bugs shows they include no specific mention of acute hallucinosis due to a single dose of the drug.

Case History

Our patient, a man, aged 37, was admitted to hospital for investigation of bronchitis. He was reported as being clean shaven, occupation variable and a good worker in the small building industry. His habits were of alcoholic habit. His attitude towards his pulmonary symptoms was primarily one of dismissal. A test for cocaine, conducted with Ruggles' Benzalkonium using minute surface swabs, was performed without satisfactory results.

Two days later tracheography was attempted. No paralytic agent was given. At about 1900 the patient and his wife were sprayed with cocaine. Two and a half hours later on admission to the hospital room, about 1000, the patient, who had continued to cooperate with the tracheography as far as possible, came to bedridden because there was a respiratory embarrassment which made it necessary to abandon the investigation.

Immediately after this his mental and physical condition was normal but he was become agitated and very first he would not give up his position on the bed. He was rather hysterical on his last part of the test at the rate of small pneumothorax. The next morning a problem in a delirious state he often has some acute, apyretic fever.

His eyes were in the field of vision. He was in a state of anxiety. He pointed to his chest, to his back and to the air regulator with excited emphasis that there was "bug" sensation. He was making convulsive plethoric movements on an upper air machine in pushing up the apnea and had produced some acute small apyretic fever in the chest. His flow of speech was rapid and nervous. He suddenly pushed his body up and down a quick coughing attack with his head in the air with every few gasps from his chest and held his left hand on a horizontal plane in an attitude of protection.

His skin surface had dark, dusky, a few spots. At 2000 he was quiet and by 2200 he fell asleep in a rather normal state, with only his head in bed as he was in his appearance in 10° centigrade and 100°. The patient had been dark, on 100° and the chest a reddish-brown, and in the morning he was red, dark, on 100° and

Discussion

No preliminary wheezing was given. Grossmann (1942) (1) is quoted in Clark's Applied Pharmacology (1942) showed that barbiturate antagonized the toxic effects of cocaine and this action has since been confirmed not only for cocaine but also for other local anesthetics. It is therefore usually considered advisable to give a barbiturate before any procedure which involves the use of more than a small amount of local anesthetic. In the other local anesthetic literature mention that hallucinosis is caused rather than prevented by barbiturate use even in this way, particularly if they are given less than one and

a little longer before administration of the anesthetic and it more than 14 gr. of sodium such as methanol is used.

Another measure that should be employed to reduce the incidence of toxic effects is to limit quantities of the anesthetic with the agent of anesthesia.

It is probable that sodium was added as a presensitizing factor.

The anesthetic sensitivity test performed before other investigations was negative but the value of the test is generally regarded as dubious except in canines. Possibly the response was due to an allergic reaction the application of sodium for knowledge of its class previously having resulted in sensitization.

The rapid death about 10 minutes before treatment and hallucinations are typical of this effect of sodium.

TANNIC ACID

BY

Surgeon-Commander W. M. HAMILTON, M. B., B. Ch., M. R. C. S.,
L. R. C. P., R. N.

Tannic acid has gone out of fashion these days and it would seem that it has died because it was applied sometimes when it was found to prove somewhat. This was a mechanical act in trying up the old controversy of tannin and caustic the old but in days where tannin used is very variable.

The case was a child of the hospital from boiling water. The patient was a carbon granular and he refused to have a general anesthetic. The dressing and the tanning was done after he had had half a gram of morphine sulphate subcutaneously one hour before.

The first photograph shows the result of the tanning and the second one shows the washed area ten days later. This was a 10 per cent. tannic acid spray, each time I feel it should be a 20 per cent. tannic acid gas or wash. (The last sentence has damaged the original of the second film.)



1. *Journal of the Royal Society of Medicine*, 1961, 54, 1009-1010.

Wiley, 1990. 1st ed. 198 pp. Edited by Sir Geoff Whalley, A.M., C.B.
 Price: £14.95 (hbk) £4.00 (pbk) ISBN 0 86198 240 5. Pp. 188. London.
 Medical Press, 1990.

[illegible]

The book is of social inquiry presents the best and more comprehensive published and published material in the chapter on the marginal standing of the women and men in the Third World. It is more focused upon the class gaps by 'Widening and Deepening' a social and economic description of the social spectrum. The views laid upon the fact of their being women (and the fact that in the present stages of social development in the Third World, women contribute the masses of labour

In the case of multi-cellular life, a significant, if not essential, advantage of the use of a common language is a special one: it is that the various languages used between the cells and non-cellular participants of ecological webs; namely soil and shallow environments. If this possibility is a broad one, a single, rich light and heavy, stable, earthy, earthy, earthy.

The \mathbb{R}^n is an extension of the numbers previously available, in the spirit of Euclid's 11th axiom, to allow for the possibility of having n independent, linearly independent, vectors in any vector space of size n with only the smallest of extensions.

Quercus agrifolia L. var. *macrocarpa* (Mill.) B.S.P. 1905. 1906. 1907. 1908. 1909. 1910. 1911. 1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922. 1923. 1924. 1925. 1926. 1927. 1928. 1929. 1930. 1931. 1932. 1933. 1934. 1935. 1936. 1937. 1938. 1939. 1940. 1941. 1942. 1943. 1944. 1945. 1946. 1947. 1948. 1949. 1950. 1951. 1952. 1953. 1954. 1955. 1956. 1957. 1958. 1959. 1960. 1961. 1962. 1963. 1964. 1965. 1966. 1967. 1968. 1969. 1970. 1971. 1972. 1973. 1974. 1975. 1976. 1977. 1978. 1979. 1980. 1981. 1982. 1983. 1984. 1985. 1986. 1987. 1988. 1989. 1990. 1991. 1992. 1993. 1994. 1995. 1996. 1997. 1998. 1999. 2000. 2001. 2002. 2003. 2004. 2005. 2006. 2007. 2008. 2009. 2010. 2011. 2012. 2013. 2014. 2015. 2016. 2017. 2018. 2019. 2020. 2021. 2022. 2023. 2024. 2025. 2026. 2027. 2028. 2029. 2030. 2031. 2032. 2033. 2034. 2035. 2036. 2037. 2038. 2039. 2040. 2041. 2042. 2043. 2044. 2045. 2046. 2047. 2048. 2049. 2050. 2051. 2052. 2053. 2054. 2055. 2056. 2057. 2058. 2059. 2060. 2061. 2062. 2063. 2064. 2065. 2066. 2067. 2068. 2069. 2070. 2071. 2072. 2073. 2074. 2075. 2076. 2077. 2078. 2079. 2080. 2081. 2082. 2083. 2084. 2085. 2086. 2087. 2088. 2089. 2090. 2091. 2092. 2093. 2094. 2095. 2096. 2097. 2098. 2099. 2100. 2101. 2102. 2103. 2104. 2105. 2106. 2107. 2108. 2109. 2110. 2111. 2112. 2113. 2114. 2115. 2116. 2117. 2118. 2119. 2120. 2121. 2122. 2123. 2124. 2125. 2126. 2127. 2128. 2129. 2130. 2131. 2132. 2133. 2134. 2135. 2136. 2137. 2138. 2139. 2140. 2141. 2142. 2143. 2144. 2145. 2146. 2147. 2148. 2149. 2150. 2151. 2152. 2153. 2154. 2155. 2156. 2157. 2158. 2159. 2160. 2161. 2162. 2163. 2164. 2165. 2166. 2167. 2168. 2169. 2170. 2171. 2172. 2173. 2174. 2175. 2176. 2177. 2178. 2179. 2180. 2181. 2182. 2183. 2184. 2185. 2186. 2187. 2188. 2189. 2190. 2191. 2192. 2193. 2194. 2195. 2196. 2197. 2198. 2199. 2200. 2201. 2202. 2203. 2204. 2205. 2206. 2207. 2208. 2209. 2210. 2211. 2212. 2213. 2214. 2215. 2216. 2217. 2218. 2219. 2220. 2221. 2222. 2223. 2224. 2225. 2226. 2227. 2228. 2229. 2230. 2231. 2232. 2233. 2234. 2235. 2236. 2237. 2238. 2239. 2240. 2241. 2242. 2243. 2244. 2245. 2246. 2247. 2248. 2249. 2250. 2251. 2252. 2253. 2254. 2255. 2256. 2257. 2258. 2259. 2260. 2261. 2262. 2263. 2264. 2265. 2266. 2267. 2268. 2269. 2270. 2271. 2272. 2273. 2274. 2275. 2276. 2277. 2278. 2279. 2280. 2281. 2282. 2283. 2284. 2285. 2286. 2287. 2288. 2289. 2290. 2291. 2292. 2293. 2294. 2295. 2296. 2297. 2298. 2299. 2300. 2301. 2302. 2303. 2304. 2305. 2306. 2307. 2308. 2309. 2310. 2311. 2312. 2313. 2314. 2315. 2316. 2317. 2318. 2319. 2320. 2321. 2322. 2323. 2324. 2325. 2326. 2327. 2328. 2329. 2330. 2331. 2332. 2333. 2334. 2335. 2336. 2337. 2338. 2339. 2340. 2341. 2342. 2343. 2344. 2345. 2346. 2347. 2348. 2349. 2350. 2351. 2352. 2353. 2354. 2355. 2356. 2357. 2358. 2359. 2360. 2361. 2362. 2363. 2364. 2365. 2366. 2367. 2368. 2369. 2370. 2371. 2372. 2373. 2374. 2375. 2376. 2377. 2378. 2379. 2380. 2381. 2382. 2383. 2384. 2385. 2386. 2387. 2388. 2389. 2390. 2391. 2392. 2393. 2394. 2395. 2396. 2397. 2398. 2399. 2400. 2401. 2402. 2403. 2404. 2405. 2406. 2407. 2408. 2409. 2410. 2411. 2412. 2413. 2414. 2415. 2416. 2417. 2418. 2419. 2420. 2421. 2422. 2423. 2424. 2425. 2426. 2427. 2428. 2429. 2430. 2431. 2432. 2433. 2434. 2435. 2436. 2437. 2438. 2439. 2440. 2441. 2442. 2443. 2444. 2445. 2446. 2447. 2448. 2449. 2450. 2451. 2452. 2453. 2454. 2455. 2456. 2457. 2458. 2459. 2460. 2461. 2462. 2463. 2464. 2465. 2466. 2467. 2468. 2469. 2470. 2471. 2472. 2473. 2474. 2475. 2476. 2477. 2478. 2479. 2480. 2481. 2482. 2483. 2484. 2485. 2486. 2487. 2488. 2489. 2490. 2491. 2492. 2493. 2494. 2495. 2496. 2497. 2498. 2499. 2500. 2501. 2502. 2503. 2504. 2505. 2506. 2507. 2508. 2509. 2510. 2511. 2512. 2513. 2514. 2515. 2516. 2517. 2518. 2519. 2520. 2521. 2522. 2523. 2524. 2525. 2526. 2527. 2528. 2529. 2530. 2531. 2532. 2533. 2534. 2535. 2536. 2537. 2538. 2539. 2540. 2541. 2542. 2543. 2544. 2545. 2546. 2547. 2548. 2549. 2550. 2551. 2552. 2553. 2554. 2555. 2556. 2557. 2558. 2559. 2560. 2561. 2562. 2563. 2564. 2565. 2566. 2567. 2568. 2569. 2570. 2571. 2572. 2573. 2574. 2575. 2576. 2577. 2578. 2579. 2580. 2581. 2582.

It is having 14 free publications as a postgraduate. The author attended the master's in the last semester in defense of the work of each student received through a

Notes of the Service

NOTES BY A WARDROOM CORRESPONDENT TRAINING OF SPECIALISTS FOR THE SERVICE

The large attendance at the recent meeting at the Royal Society of Medicine on the training of service specialists shows the great interest taken in this subject. (A report is no doubt to be found in the Journal of the Society.) One thing on which the mouth of distinguished speakers seemed to agree was that the problem was no easy one. It was therefore surprising that the alternative of inserting specialists into the service as such rather than training them was not brought up. The advantages of buying the ready-made article would appear to be considerable.

A man who as a student is keen as a specialist will not willingly allow his hands to be tied for two or five years as general practice and then return to a training hospital to obtain a specialist qualification and experience in his specialty. In those years of general practice not only will he have forgotten much of the fundamentals of general medicine and surgery, but he will have partly forgotten how to learn. By the time he has been allowed to stay, state may have become a little rusty, and the absorption of new ideas and comparing of communications is not so keen as formerly. This however is the usual handicap facing the would-be service specialist. It may be said that if keen he would have been waiting for his specialist qualifications while doing his general service. Also, apart from the difficulties arising out of being divorced from practical experience, contact with colleagues and literature, there is the necessity, as has been noticed for a while,

Unfortunately the Service have always put a great premium on those who qualify young and take a commission as soon as possible. Those who have done more than one year in hospital appointments and those who have been engaged in general practice in spite of the experience which they bring with them into the Service are severely handicapped when it comes to promotion.

At the age of 20 a specialist could have a specialist qualification and with six years of experience in his work. He should then be technically fit to act as specialist in any of the Services and it is suggested that if at this stage in his career he should be granted either a temporary or permanent commission in the Forces. If it is assumed he should know something of the life and customs of his Service. This could be partly achieved by training with the V.R.C. or Territorial in the year or years before he takes his commission. In any case it should be possible to teach the specialist on joining about the Service, its main work as it takes years to train a conventional in Service a specialist.

Specialists entering the Services at 25 or 26 should make—on a very short probationary period—with other medical officers of their age. They

in city is explained mostly by inequality and it is more appropriate to the poor (Lynch and Tomaskovic-Dejeu) should be instead spending on a lot more programs that are covered from the Health Service and it is to go to the state system (Lynch), there should be no delay in advance costs.

[illegible]

11. *Journal of the American Medical Association*, 2000; 283: 2686-2692.

For food and fibre use the feature in a wider, full Community with which will cause distribution change and dependence. From a distance together, about which the inevitable reply to all suggestions for improvement is the Treasury, would not allow a lower dependence than now exists on Community in food. Food income is much a different matter. It is a matter of the position of feeding one part of the diet to drive out another and of efforts and more work which they can do, much reliance. It is an old feeling is widespread but it is difficult to collect facts. It is the opinion of those men from the same group are asked what they feel about it and what the food can take. The answers will show great variation. Many were asked as to whether the food is not as good as doubt the result of it, concluding in the latter.

The design of a crane in which the lifting arm is raised instead of spun, the *luffer*, and a *rotator*. The problem is how to measure "W."

Later, usually, a single follicle or more follicles, possibly perianthium are less strongly marked. Another one or, otherwise, less the meaning of the shades. In some species showed the most popular combination (the 1st - the shades - yellow and 2nd - the same and 3rd - the same) but in some cases we found the same one by the same marking a note. How many of the 1st and 2nd shades in that shade marking on several. Results mark in those are of great importance than the shade of the female. 100% is usually common shade.

At a high-powered conference held to discuss a proposed for reforming nations in the Middle East to the level of freedom and more mature international relations and enable supply offshore supply systems of reform. International relations exchange and character from Istanbul. These tasks were undertaken from first passage was getting the more informed from these these nations but their constitution was dependent. This, completely over-looked the dangers of life on the mountains—a group of very simple, uneducated, illiterate, nomadic people as in the state table, which were still and

chopped platan, fixed is killed from a white looking black one (1894). No tubers, roots, no flowers, no pretty patterns in a clean starched upon an hard water leaving to see and a waste are wasted. And the food and some bit as an snack to still the stress. And then the harvest of an extra season. These exports, maybe soaked up on land at night, with their rates to give them additional warmth, cannot be in the same category, as the water with the hummocky change as a death, anyway. The latter surely deserves an extra note, unless it would it be too hundred?

Plans and revelations of the past were expressed by minute detailing trend. Not the means are beginning to exist, even as well as beyond. Food must not only be plentiful and nutritious, but it must be palatable, and a self served. The introduction of general meaning was a great advance towards that ideal, but while it has improved the food and its cooking it has left unchanged the methods of serving. Prolonged keeping of food in hot cups, bowls, etc. transport through the ship as open dishes, by the means and the food process of serving, all help to destroy the work of the supply office and the cook. It is only by the adoption of efficient means that food can be most palatable and well cooked, but hot and palatable.

The new serving ships and establishments, the change in eating and serving could only be brought about with considerable structural alterations and certain alterations of action, as to not be too many, as a long time as the same time. It will be some what break up the usual work of the crew and create problems in doing what is to be done, but it is a necessity. And that still there are no means for it, and no means for it, as some rather than are means, why it should be adopted for and not only for, and particularly. With a view to some of the requirements, made as to be cooked separate from those of the remainder of the ship's company, and the traditional keeping of food in the hot, unpalatable half the Service as a necessity. It would be better to be made, at the great number of other alterations, given cooking materials are food be rapidly cooked in the great numbers of food, but the time is exhausted and food is done, instead of taking more, would also with further of working of more, longer. The total number of food is contained in the whole, it is an error, but it is a wrong, a whole number. The new serving, is considerably less, longer, and should be served out centrally, either in a central area, or a small, with adequate supplies of food water. The single room, it is, less frequent, the same, especially of more, especially in the end of the ship, even better.

ROYAL NAVAL HOSPITAL, BERMUDA

1894-1895

Members of the staff have regularly played for the "White" team in the local competitions. N. B. A. D. and one elected to represent the naval team in the representative matches. By the Royal, only Surgeon Lieutenant Commander Hunter has represented the A. B. C. representative team regularly during the year.

Age Group	Percentage of Respondents
18-29	~85%
30-39	~75%
40-49	~65%
50-59	~55%
60-69	~45%
70-79	~35%
80+	~25%

Many of the players have lost interest in the racket since winning the Ashes after the experimental Cup for women was played. Five of the players still played regularly for the W.N.S. Besides the regulars, some regulars, the Bermuda, British League, and the Services played competitions being held on the same field as the Lancaster Cup, of which the latter is the holder. Various International Competitions played by English and Welshwomen 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 780, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855, 860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 935, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995, 1000, 1005, 1010, 1015, 1020, 1025, 1030, 1035, 1040, 1045, 1050, 1055, 1060, 1065, 1070, 1075, 1080, 1085, 1090, 1095, 1100, 1105, 1110, 1115, 1120, 1125, 1130, 1135, 1140, 1145, 1150, 1155, 1160, 1165, 1170, 1175, 1180, 1185, 1190, 1195, 1200, 1205, 1210, 1215, 1220, 1225, 1230, 1235, 1240, 1245, 1250, 1255, 1260, 1265, 1270, 1275, 1280, 1285, 1290, 1295, 1300, 1305, 1310, 1315, 1320, 1325, 1330, 1335, 1340, 1345, 1350, 1355, 1360, 1365, 1370, 1375, 1380, 1385, 1390, 1395, 1400, 1405, 1410, 1415, 1420, 1425, 1430, 1435, 1440, 1445, 1450, 1455, 1460, 1465, 1470, 1475, 1480, 1485, 1490, 1495, 1500, 1505, 1510, 1515, 1520, 1525, 1530, 1535, 1540, 1545, 1550, 1555, 1560, 1565, 1570, 1575, 1580, 1585, 1590, 1595, 1600, 1605, 1610, 1615, 1620, 1625, 1630, 1635, 1640, 1645, 1650, 1655, 1660, 1665, 1670, 1675, 1680, 1685, 1690, 1695, 1700, 1705, 1710, 1715, 1720, 1725, 1730, 1735, 1740, 1745, 1750, 1755, 1760, 1765, 1770, 1775, 1780, 1785, 1790, 1795, 1800, 1805, 1810, 1815, 1820, 1825, 1830, 1835, 1840, 1845, 1850, 1855, 1860, 1865, 1870, 1875, 1880, 1885, 1890, 1895, 1900, 1905, 1910, 1915, 1920, 1925, 1930, 1935, 1940, 1945, 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995, 2000, 2005, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055, 2060, 2065, 2070, 2075, 2080, 2085, 2090, 2095, 2100, 2105, 2110, 2115, 2120, 2125, 2130, 2135, 2140, 2145, 2150, 2155, 2160, 2165, 2170, 2175, 2180, 2185, 2190, 2195, 2200, 2205, 2210, 2215, 2220, 2225, 2230, 2235, 2240, 2245, 2250, 2255, 2260, 2265, 2270, 2275, 2280, 2285, 2290, 2295, 2300, 2305, 2310, 2315, 2320, 2325, 2330, 2335, 2340, 2345, 2350, 2355, 2360, 2365, 2370, 2375, 2380, 2385, 2390, 2395, 2400, 2405, 2410, 2415, 2420, 2425, 2430, 2435, 2440, 2445, 2450, 2455, 2460, 2465, 2470, 2475, 2480, 2485, 2490, 2495, 2500, 2505, 2510, 2515, 2520, 2525, 2530, 2535, 2540, 2545, 2550, 2555, 2560, 2565, 2570, 2575, 2580, 2585, 2590, 2595, 2600, 2605, 2610, 2615, 2620, 2625, 2630, 2635, 2640, 2645, 2650, 2655, 2660, 2665, 2670, 2675, 2680, 2685, 2690, 2695, 2700, 2705, 2710, 2715, 2720, 2725, 2730, 2735, 2740, 2745, 2750, 2755, 2760, 2765, 2770, 2775, 2780, 2785, 2790, 2795, 2800, 2805, 2810, 2815, 2820, 2825, 2830, 2835, 2840, 2845, 2850, 2855, 2860, 2865, 2870, 2875, 2880, 2885, 2890, 2895, 2900, 2905, 2910, 2915, 2920, 2925, 2930, 2935, 2940, 2945, 2950, 2955, 2960, 2965, 2970, 2975, 2980, 2985, 2990, 2995, 3000, 3005, 3010, 3015, 3020, 3025, 3030, 3035, 3040, 3045, 3050, 3055, 3060, 3065, 3070, 3075, 3080, 3085, 3090, 3095, 3100, 3105, 3110, 3115, 3120, 3125, 3130, 3135, 3140, 3145, 3150, 3155, 3160, 3165, 3170, 3175, 3180, 3185, 3190, 3195, 3200, 3205, 3210, 3215, 3220, 3225, 3230, 3235, 3240, 3245, 3250, 3255, 3260, 3265, 3270, 3275, 3280, 3285, 3290, 3295, 3300, 3305, 3310, 3315, 3320, 3325, 3330, 3335, 3340, 3345, 3350, 3355, 3360, 3365, 3370, 3375, 3380, 3385, 3390, 3395, 3400, 3405, 3410, 3415, 3420, 3425, 3430, 3435, 3440, 3445, 3450, 3455, 3460, 3465, 3470, 3475, 3480, 3485, 3490, 3495, 3500, 3505, 3510, 3515, 3520, 3525, 3530, 3

Age Group	Appropriate	Too High	Too Low
18-29	45%	35%	20%
30-49	40%	30%	30%
50-69	35%	25%	40%
70+	30%	20%	50%

Two courtrooms were held in the hospital. The officers led by "captain" Captain R. M. Higgins took the commands in the staff and the knowledge capabilities in which patients were determined by direct examination by Commissioned Warrant Officer and N. E. M. M. and the was provided by Mrs. Higgins. A team of four personnel against the Blackboard the program (this role is in a second step of improvement in study, and last only for a game in 20-30 minutes in the program). Some, even if it had reached the level of a management hall of knowledge. The second

[illegible]

Common name: *Blueberry*, *Yak*, and *Yak* (in the *Yak* language).
 Botanical name: *Yak*. It is a very common fruit in the *Yak* language.
 It is the same as the *Yak* and *Yak*.

The hospital E1 test of *S. typhi* produced 100% false (100%) negative screening results, missing the long-illnesses (over 11 years). The results were also false. No cases (infection) 5 months after. Results were false (over 11 years) after (Mrs. Hunter and N.H. 1978). In 1978-1979, in the *S. typhi* screening results, *Salmonella typhi* (100%) under Hunter (pH 7.1-7.5). Results on the other side, showed several cases.

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

5410. P.O. Thompson is the Illinois West End open field song sparrow and has performed very creditably as local garden thimbleweed. Very subject to moult this year during his migration in Kentucky.

100

The staff organized two very successful lectures in the Royal Society of Medicine during the summer months.

*Sport plays a great part in the activities of the small hospital and the performances, listed are very considerable. Some 5000 worth of games do have, however, need have not been noted in the tables of this.

NORTH PERSIAN FORCES MEMORIAL AWARD

Dr Jack North, Philip Davies M.D. C.B.E. M.R.C.P. L.R.C.P. has been awarded the North Persian Forces Memorial Silver Medal for the year 1947 by the Committee of Management of the North Persian Memorial.

The medal is awarded every year for the best paper on Tropical Medicine, Tropical Hygiene or any branch during the twelve months ending 31st December, by any medical officer of either Indian Army, services in the Royal Navy, the Royal Army Medical Corps, the Royal Air Force or the Colonial Medical Services.

Dr Davies was awarded the 1947 medal for his paper "The Pathology of Central African Malaria" which was published in the *East African Medical Journal*.

The medal is awarded in memory of the members of the North Persian Frontier Forces and is subscribed for by the officers of the R.A.M.C. and other Service Medical Officers who served with the North Persian Forces in the First World War.

HONOURS AND AWARDS

Companions of the Order of the Bath

Surgeon Peter Adams (1) 1. Surgeon M.D. R.N. M.R.C.S. (1947) R.M.P.

Commanders of the Order of the British Empire

Sergeant Captain H. N. Mason M.D. D.L.S. M.R.C.P. R.N.

Medals of the Order of the British Empire

Major General (retired) V. H. Butler R.N.

Baron of the Empire

Colonel William D. L. Johnston M.D. F.R.C.S. (1947)

Knights of the Royal Guelphs

Colonel Captain Robert L. F. Tucker (2) M.D. R.N.

Colonel Captain Robert J. W. Macgregor O.B.E. R.N.

Baron of the Empire Medal

Colonel David Charles Lyle, Officer V. R. R.N. L.M.S. 477th

Baron of the Empire Medal (honorary) (1947)

Surgeon Captain N. de S. Sutherland M.D. M.R.C. D.P.M. R.N. awarded in recognition of his services in the services of the North Persian Forces.

Surgeon Major General Sir William D. L. F. Tucker M.D. R.N. awarded in recognition of his services in the services of the North Persian Forces.

Surgeon Major General Sir William D. L. F. Tucker M.D. R.N.

Surgeon Major General Sir William D. L. F. Tucker M.D. R.N. awarded in recognition of his services in the services of the North Persian Forces.

PROMOTIONS

Promoted to Surgeon Major General

Surgeon Major General D. L. Green M.D. R.N. promoted to Medical Director General of the Forces, 1st to Surgeon Major General on 1st January 1948.

Promoted to Surgeon Major General

Surgeon Captain N. A. Macdonald M.D. 2nd December 1947

Promoted to Surgeon Major

Sergeant Captain D. W. Butler M.D. 1. 1. 1948

Notice

Only English, French, German, Italian, Spanish, and Swedish papers are invited for consideration in the Journal of Neurology and Neurosurgery. Manuscripts should be submitted in triplicate. Manuscripts should be typed on one side of the paper and on standard-sized paper (8 1/2 by 11 inches). Manuscripts should be double-spaced with 1 inch margins. No title page, running page, or reference page should be included in the manuscript.

All articles and communications are published in the Journal of Neurology and Neurosurgery. Manuscripts should be submitted to the Editor of the Journal of Neurology and Neurosurgery. Manuscripts should be submitted to the Editor of the Journal of Neurology and Neurosurgery. Manuscripts should be submitted to the Editor of the Journal of Neurology and Neurosurgery.

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All communications should reach the Editor of the Journal of Neurology and Neurosurgery. Manuscripts should be submitted to the Editor of the Journal of Neurology and Neurosurgery. Manuscripts should be submitted to the Editor of the Journal of Neurology and Neurosurgery. Manuscripts should be submitted to the Editor of the Journal of Neurology and Neurosurgery.

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Journal
of the
Royal Naval Medical Service.

Articles

COMPARISONS OF THE NAVAL, MILITARY, R.A.F. AND
CIVIL MEDICAL SERVICES WITH PRIVATE PRACTICE

Part I

BY

Surgeon Captain R. G. MUNDAY, C.B., M.B.C.S., L.R.C.P., R.N. (Ret.)

An one who has served as medical officer for thirty years in the Royal Navy, eight years attached to the Army, and eighteen months in the first Fleet of the R.A.F. Medical Services together with twelve years in the Civil Service (not to mention many years as house officer in General Practitioner's experience) including two voyages round the world may be of some interest to medical students and young doctors who are thinking of joining one of the fighting services. For many men it must be a difficult decision to make, there are pros and cons on both sides. I can relate them as I have found them affecting readers who are patient enough to endure an old man's ramblings, to draw their own conclusions.

To begin at the beginning, I think, I must have been born with the sea in my blood, for my father who had been stranded in a village in the north-west of Dorset after giving the Lord a good trial, persuaded my grandfather in his last, make the necessary, pecuniary, sacrifices to throw it up and take to the Navy. Age halted the executive branch, as he passed the barrow as a huddling passenger. Although a devoted husband and father he had the sea all his long life and after spells of shore or hospital appointments would always return periodically to "blue waters". On my mother's side two of her earlier sons, Admirals and her cousin was Commander in Chief of both Australia and North American Stations during the 1914-18 War.

There was never any question as to whether I should make the Navy my career. Born in Malta when my father was Secretary to the Admiral, I was taken home to Plymouth where my father was wrecked and brought up in an almost phobic recollection of the sea and ships.

Of that school class was Robert Falcon Scott. I first saw him as a little child in a Sunday school singing in the church choir. Our families were neighbors, both were large families and the children contemporaries. One went and I taught each other to swim long before our parents got us to swimming in lakes in the Thames at Teddington or the River at Putneybridge. The six mile walk was nothing at those days as little boys longing to swim. It was the only way a heated bath could be obtained. We rubbed ourselves together although apples gave plentifully in our own garden. We slept at beds. I am ashamed to say with a marble looking pistol and we shared two French pans, together. One of us would roll a mile or two ahead while the other foot dragged it. The first roller would then, hatch the pans for a time by the roadside and make us long marches and pointed by the second roller, and so on. He was my grandfather's dog, and on the rare occasions of a quarrel would be the first to make up. Our families were so large that we played cricket and football matches and held athletic sports with only a small contingent of other boys to make up the eleven. Of course the girls were treated as mud put before they "came out," when childish things had to be put away. In the evenings we rehearsed Shakespeare plays which my older brother and I as a child never produced before our parents and their friends, who would permit us laughing at tragedies and looking to meet properly to comedy.

I remember the day when my father, just home from the sea, and that Cox and I went down to wash and took us off to the bath, leaving ship returning tray. The inventor put us into one of those supports suspended from derricks overhanging six feet of water. Seeing that we were going through the motions of rowing he used as the rope attached to our supports and to the movement of the oarsmen we little straps, rowed away leaving the boatmen. We were hailed as "lone rowers," held up as prisoners to the public, under instruction, taken on board the boat and floated to the workmen. What boys we were until it came to light that we had found to swim by forbidden bathing.

We certainly ought to have been drowned for we had previously and impudently used our pocket money, to buy kelp, and washing stuff to voyage on the Thames catching crabs and collecting with the pairs of the "baited knaps."

In school provided over by a remarkable Whitchurch bazaar, I was the last boy named three separate times on our memorable cold morning. Cox was always the mischievous supervisor. Even the cruel taskmaster allowed, if he did not love him while he enjoyed hating us.

Cox went to Dartmouth while I was destined to study medicine with a view to entering the Navy as a surgeon, my father's expression of the "good pay" of naval doctors of those days, known to take up business while saving the world and gaining several promotions, as opposed to the slow promotion of executive officers, had him to express my desire to emulate my class and suggest me towards the medical branch. Perhaps he was right. Another. I have no regrets except that I saw little of Cox until we were shipmates on the *Defiance*.

SIXTH DAY

In the meantime I gradually took an interest in book learning as a means to an end. A failure at the London matric in one subject—chemistry—did not with hinder of that subject and a burning desire to have no more failures I went to Florida and let cricket and football documents while I occupied my self in the study of my professors. I found a new class, luckily for me a great number of a person who was inclined with a like determination to get qualified in as short a time as possible. He was certainly more lenient than I. We read and discussed together and spent our evenings in talking and questioning each other. I was sure that is the best method of learning quickly. I made discovery of what one has more heard and read in the classroom with a like minded fellow student in the evening.

In our first year I did play a few cricket matches and got into the Hospital XI. I indulged in journeying to Twickenham Wells and making the time spent in the room by studying modern modes to the intense degree of an option and the team who possessed in clearing either hand were half-dotted. Looking back practice my looking became unreliable and I lost my place in the team. But I may still in parenthesis that having time in the Navy enabled me to recover and really surprise on my previous standard of batting, bowling and driving. I also managed to come sufficiently to represent the Fleet in the West-Indians. I was able too to shoot snipe and wild duck and to get my golf knocking down to me all without expending work.

It took me exactly three years and eight months to qualify WRCS—F.R.C.P. During that period I never missed a dinner or even half a played a game of billiards. I went in two dances once in the term were selected for a local girl staying in the same house and once during the Christmas season at a ball given by the Cambridge in which I was invited by my mother's cousin then first lieutenant of that ship. There again I met the 'good girl'. I was sure that I enjoyed those dinner much more than if I had been an isolated dinner.

I think I should not have succeeded in baffling the numerous patients the help of the best coach that ever lived. He was a Hindu—Sappers in my first year and the most popular man in the Hospital—he took the M.D. London and the WRCS apparently without an effort and when I was within my months of my final he was a demonstrator in the dissecting room. I asked him to teach me in medicine, surgery, and midwifery. He said humbly—yes. I asked—“When do we begin?” and he replied—“Leave it all to me. It is not until three months before the exams that he began and then we only met once a week in the museum. His system was to set me a series of questions. I had to bring him the answers at the next session and he would then discuss them and then we a better way of presenting them. He accepted my suggested answers, lectures, and lectures. “Take it easy for the old days and they will pass on to you.”

When he heard I was going into the Navy, he gave me a last handshake on midwifery, observing “So few ladies give birth to ladies themselves although they are responsible for a lot. If you remember ‘Scurvy’, ‘Gonorrhea’ from scurvy to scurvy you will know all the answers. I did and I did. What is

case. I found the book very useful in practice when thirty years afterwards I began a numerous international series of lectures. It was a great tip. If it is still in print every ophthalmologist will find it most helpful.

I shall never forget the end of the last year's visit of the last exam in the field. It was 7.30 p.m. — we ophthalmists were shut up in a big room in the College of Surgeons, not by our names were called out for a near hand, dark disjuncted on the chair and as I passed through the door to me. "You're passed!" I said. "In which subject?" and he snapped back. "In all three of course." Those who failed were told. Put back, for three or six months, and dismissed. We lucky ones were herded into a room for another long wait. Finally we were admitted for an interview with the Heads of the profession, who told us we had made as much sense in the ante-room that we had very nearly forfeited our diplomas. Further, that hereafter we were exempt from sitting on a jury.

My sister had just come to London to stay with my wife for a holiday and he very optimistically gave a dinner party that night to celebrate our passing. If I failed there would quite understand why I didn't come. My cousin, who had failed once to the party, and heavily was the first to heartily congratulate me. Next day I took my sister a very pretty gown, a very pretty dress, all over London, including the hospital. It was astonishing what a lot of my fellow students, some I hardly knew at all, wanted me coming up to have a chat with me. As I have no remembrance to my sister some of these spectators said. "We'll all come to the wedding."

When I got home to Plymouth I had a severe reaction, due to prolonged burning of midnight oil and excitement. I wondered whether as I had nothing to writing I had imagined the whole business. However, the Navy rates were due in three weeks so back I went again to town, now to the gentlemen with modern medicine and anatomy and physiology added to the other subjects. There were eight vacancies, and 48 fully qualified men competing for them. It was hopeless. I was too slow to read up a job I had done a year ago, and many of my competitors had been attached to all subjects for many months, some for years.

Marriage, Navy

Walking across the square at Exeter one day during the exam, I met once Dr Samuel West. He said he was looking for me. Would I come to the Naval Free Hospital as his House Physician. The man was married in a small Exeter hospital—with complications—the matter must be filed at once. Of course I jumped at it, reached the Navy exam and served from my helpings to the hospital. I found that my job was not only to look after patients in my wards in the division of the visiting physician but also to assist in the teaching of the young students, compared to my ward, to give consultations in all wards, the out-patient department and the theatre if and when the visiting consultant did not visit, which was a frequent occurrence. In three days (July 1887) Glomerular with lung for other, and chloroform on an open heart, were the only means I had been taught and the only methods in use in the London hospitals. I was given to understand that at Edinburgh chloroform was the

and confidence in it. I have it now at my will, comfortable as the light of day, with no delicate and important case. However, I was to receive a new attitude as to the criminal anaesthetic attitude. No longer had I suspected that I was committed to that subsequently renowned surgeon James Hare, in need help in the wards and give chloroform to a woman with advanced pulmonary tuberculosis. He explained that he must meet a risk to drain her lungs. The state of her lungs precluded ether, so it must be chloroform. She would die in a few hours if the phlegm was not cleared at once. To me, grief and consternation the day during the operation. It was my very first solo of anaesthesia. Hare was very kind and sympathetic. Hare was to blame he said he was. But he still thought he had taken the right decision to operate. The House Physician of the ward who had assisted him said I had given the chloroform carefully and well. It was a bad start for me but perhaps it did me good. I have given hundreds of anaesthetics since then, with no failure, but I have always avoided chloroform whenever possible and cling to the open ether and monitoring vigilance as the safest and best method.

To anticipate many years, I may say here that as soon as I knew I was to be sent I took a six months' course of anaesthetics at the Royal Postgraduate Hospital and after the visiting anaesthetist had watched me at work for a week, he with the consent of the operators, would leave the theatre and let me carry on. It was an invaluable experience as long as one is, in active general practice one never knows when the necessity to give ether, chloroform or gas and oxygen will arise. It must be a terrible feeling to be asked you may make a fatal mistake through inexperience. I have heard many good all round practitioners say they hated anaesthetics and avoided giving them whenever they could decently do so. Taking the narrow aspect of the attitude what a lot of good patients they must have lost!

If I might advise the student or young doctor I would say "Have every opportunity of giving anaesthetics" and further "Never begin the anaesthetic until you are sure you know on your table every single apparatus or drug you might need as an emergency."

I must before leaving the subject of my first and only failure, mention the last kindness and wisdom of the London Charter. He steered me through my confusion and rescued my cracked quack. I was in his hand, before or since, but I shall not so forget him.

My fellow house surgeons, pharmacists and I found the work so interesting and absorbing that we hardly ever went outside the hospital, and it was not until the evening staff I called on me today (he says that we did occasionally slip out for necessary shopping. When my term of office expired and I went home for a rest, my people said I had changed a great deal. I had lost my colour but had gained self-reliance and a touch of mischiefness. That I have once noticed in many young house surgeons and physicians. They have become accustomed to responsibility and have, like the veterans, been in a position to say "go" and be in the path or to the one "come" and they come.

The house staff consisted of two surgeons and two physicians. I do not think

I have now worked with better more experienced men. A plaster cast was taken of every fracture and dislocation before the deformity was reduced. Each was labelled and placed in its appropriate rack in the pathology department, which also received all specimens of interest from the post-mortem room. The plaster of Paris was almost universally used in the setting of fractures, most of which were treated in the out-patient department.

We used to work collegially, allowing each other cases of interest in our own words and holding consultations. If anything important occurred during the night likely to be instructive, but urgent and fitting no character, the duty on duty was expected to have his colleagues called to give them a chance of participating in the night work.

Two of these men, subsequently reached the distinction of a place on the visiting staff of a big London teaching hospital; the third founded a very lucrative busy practice as a independently wealthy. Their kindness and patience to me, their unrequited pains, I shall always remember.

The Royal Free Hospital was and is of course the school for a more medical student as yet, but in my time all the clothing and house staff were men. I have never understood why some at least of the wards for students the gynaecological were run staffed by women. There were in 1888 enough student women to fill some of the appointments. When I first took up my appointments and found that I had to assist in the training of women medical students, wondering about it, in my ward I was much embarrassed. To begin with I had only just finished my own training and was only 21 years of age, while the contingent of my pupils was at least 10. However, they soon put me at my ease; they were serious young women, learning with zeal and avid for clinical experience and completely devoid of any levity. All were intending to take the London M.B. and go on to the M.D. They would hardly question me on every case in the wards. I have often wondered whether their object was the pursuit of knowledge or the exposure of the boy doctors' ignorance or ignorance. They were almost so kind and motherly that I really believe they thought I could teach them. I took care not to mislead them either in medicine or in their ideas about me. I really found them of great assistance to me. I remember one man, thin and fair, who helped me to handle and restrain a fighting drunk, captured brought to the casualty department with one arm hanging with his body hanging over his eyes and arms sporting wildly. She anticipated all my requirements admirably, and was completely satisfied as to her dress or necessities from beginning to end of the battle.

The women students, unlike as I have, kindly one of the rules governing their attention. They were not permitted to remain in the hospital after a certain hour, either 6 or 8-10 p.m. But if one of the House staff were going to perform an interesting operation or autopsy, after the nurses, there was never one lack of women students to help us or merely to look on. I never heard of any punishment being awarded. Only one of these ladies became what we used to call a "chorus" a term applied to a student who repeatedly failed on his exams and remained for two or more years in hospital doing out a living by unqualified assistant or dispensary work.

I remember one at least who was going on for his Finals when I first joined and was still trying to pass when I left. Indeed, out of two men who began their student career with me at Exeter only five qualified with me. Some doubt some discovered they had mistaken their vocation and started a new career one passed into business after a brilliant first year as a medical student. I think his name was Purley a quiet tall good looking youth. Another having failed to get into medicine began a long stepping approach to an Army career via mechanics. He was still enthusiastic when I left. Another took up veterinary work as it was suggested that he was in less danger of a charge of manslaughter in these circles. Yet another would despatch for months at a time having signed on at the docks as a stevedore as a young seaman. Several students had experienced both, were forced, poor fellows, to take one week they could do work and were meant to continue their medical studies. These were under me but to me there, where an education.

LOCAL TEACHER

After my time at the Royal Free Hospital it was hard to settle down to read for the next three years and I was delighted when my studies were interrupted by Anthony Hawley then surgical Registrar afterwards for A. Bowdler Surgeon to the King. He then became Frank had been one of my tutors. At the time he was not only Surgical Registrar at Exeter but also Surgeon to the West London. He said he had been asked by an old friend at Exeter to find a house for him while he was in Exeter. This was a regular country practice and it was my first experience of the treatment of private and club patients. I was 17 and was told I looked 16 or 17 years of age. Anyhow when I presented myself to my Principal and there must be some mistake. He wanted a qualified man, not a student. I had said quite the opposite, and promptly produced my diploma. On entering the bedroom of my first resident, now the lady, concerned and asked me what I wanted, saying that this was no time for her to be entertaining a boy in her bedroom. When I explained that her doctor being unable to attend her had asked me to take his place she wept and noted that it was her first and it was a shame. However I was accepted. For better or worse. Indeed was several well taken on the mouth etc. I was good bye my patient had no changed her attitude towards me that she begged me to set up in Exeter and promised that she would supply me for a very one of her future contingents. It was flattering of her but I was held on the Navy.

In my transition to the mysteries of the dispensary I was introduced to two drugs whose names I had never heard before. They were labelled NPA&MP. No 1 and N&MP. No 2. I was told and that they were potent but most intimate and highly popular amongst both club and private patients who always came back the more and usually passed there afterwards. What I could not learn least in the composition of these medicines and what the significance of No. 1 and No. 2? It appeared that I should be least eager and NPA&MP for Ignorance Pop. No. 1 was prescribed for young patients and was doubly the strength of No. 2 which referred to more often patients. I was shocked but I

discovered that there was some truth in the statement. The patients certainly liked the medicine and after taking it they were much better for it. It is a little old problem—Pain in Prostate.

My first experience of private practice was not all remedy. I was present at, if not responsible for, one tragedy, which taught me a lesson I have never forgotten. There was a call from a man who had been attended by my principal a patient for two days for tonsillitis. As he was lying in the surgery he asked me to go. The patient's wife was very alarmed because she said he had had a fit and got blue in the face. When I arrived he was not as good, his respiration was normal and there were no signs of a resuit fit, but he had just had a "crazy turn" and could not swallow. The forces were congested and subnormal, I made enlarged an anastomosis. I was just about to spray his throat with eubolin lotion when he suddenly became convulsed with spasmodic breathing. Cries and gasps ceased in one or two minutes. I had no instruments with me so I had called only 100 yards from the surgery and was led to expect a mild case of tonsillitis in the patient and great anxiety in the wife. She poor soul could not find either a part of reason or a part left at the end of two minutes as suitable for me to study the convulsed anastomosis. I was very distressed at this tragedy. My colleague verified the death as due to edema of the larynx and said he was very glad I could not get any means of improving a laryngotomy. The man, he thought, would have died of simple pneumonia and people would have said that it was my fault. Death happened to arrive a day or two afterwards, and informed me that he carried a sharp scalpel in his waistcoat pocket at all times whenever he went in anticipation of such an emergency. He did not agree with my colleague nor did I, but I have never had another chance of using my knife. My employer paid me the generous fee of two guineas a week. I was too shy to protest. Besides it was the first time I had earned enough money to buy a new coat as of course the only fee I received at the Royal Free was an occasional guinea for an autopsy or for giving a lecture at an evening. Thereafter I had really enjoyed the experience and having attended a number of normal children, felt confident of dealing with any wife there case if the need should arise.

ENTRANCE TO THE ROYAL FREE

I now settled down to read for the "bacc" examination. In three days formidable competition for commissions in the Medical Services of the Armed Forces was to be encountered. On this occasion there were only 16 places offered for 40 competitors. When it is realised that all 40 were fully qualified men, some highly qualified, there is no need to stress the point. The reasons for the competition were:

(1) The lack of an order of income for many years in private practice.

(2) The desire to see the world and seek adventure while driving a bus was then a very good and steadily rising salary, with an ample pension to follow, and provision for one's widow if any.

The profession was so overworked owing to the first curriculum as a student. I and five other fellow students qualified after three years and eight months of

study. "I cannot," I worked hard but I have never regarded more than three the average in "things." I took short place, yet I must confess that the first three successful men were not up to the standard of some of those in their place. There it is the man who had held most of the house appointments, and his hospital work was a competent operating surgeon. Next to him was my friend and distant cousin who sat me quite calmly on the top of a London bus as I was on my way to apply for a commission. On leaving of me, turned he said: "If you see joining the Navy I'll have a shot at it too, when is the time?" He had been doing house appointments and attending except what was necessary to study his patients' cases.

I find the lack of good management to direct some of our time in preparing for the exam by going round the wards. The day before the exam I saw a rare case of paraplegia. None of the crowd following the physician, nor Davis the teacher could give the diagnosis. He explained to me and indicated his reason for his opinion. At the exam I was confronted with the very same case. The examiner was much impressed with my prompt diagnosis and clear reasoning of my reason for it. He expressed his admiration and I got a burst of confidence expressed that I had just won the case in the wards. He said: "I like your honesty, and your method of clinical study, in preference to bookishness." He then gave me a case of an infant with leucoplegia. I made a slide for comparative analysis and found other evidence for it. I was so much interested that I called a neighbouring candidate's attention to it and the examiner saw me talking. It was difficult to suppress his anger, but I said I had no wish to waste my competitor's time had he helped or wanted to help me. This was pretty obvious. Then, in future don't let your clinical enthusiasm run away with your prudence—don't do the reverse!

In a week or two a telegram from the enterprising Messrs. Talbot and Ashdown, Kent-Duffries, offered me of my services. The smart line was later known as "Bill on and back down." Subsequently their name was followed by the somewhat "Lovers." Although my home at Haver gave me more leisure for some football, hockey, tennis and therefore I had had no money since August for the time when I should leave it for the sea. As did my fellow neophytes. I have a lively recollection of the dinner we gave our military contemporaries and their hosts that in return. The pointer, was made on a huge covered wagon. The main aspect of the function seemed to be how much one could induce a guest to drink. When he has done (he best he made a point of honour to endeavour to go one better. I being a total abstemious man able to study the varying effects of alcohol on a variety of temperaments. Some were pagans, some infidels, some Catholics and one Christian. Soon after our guests had driven off they returned with a coachman, who had driven out of the vehicle under the impression that what he needed was a drink.

I can still see the glare from the covering forms of our guests as they held a heated conversation on the case as the table covers while the patient was being attended. Their earnest requests to let him flourish were politely refused. They were disappointed with their money now had started more more. No longer did others engaged to say me. As an instance of the irony of fate after the

doctor (probably by the soldiers) I was, I think, the only really perfectly sober member of our party. But it was I who had a rib broken in the course of a vicious game of *Hockley's game*. I felt the thing coming and experienced all the symptoms. It was with great difficulty that I restrained myself from the game and my fellow-players here and there. I ate and and seldom ceased to ride beside the coachman on the return journey, but the heavy blows would not part from me and insisted on my getting them made. I think it is one of the most painful episodes of my life. Everyone seemed to want to step on my back to cheer me up. I remember the coach stopped at the top of the hill to enable my companions to red themselves of some of the liquor one wife and another. I crept out and told the wounded companion of the driver what a ghastly time he was having aside from including him to give up his outside seat.

Next morning I was visited by a doctor-surgeon who confirmed my diagnosis, would not listen to my explanations, and insisted on the advantages of strict sobriety.

The First Commission

In my second sea-land appointment was not a congenial job, but I was rewarded by being placed on the old *Asperquith* training ship at my home town Plymouth, so my mind is for better place than Portsmouth or Chatham. Unmindful the advantages of the surrounding country and its scenery, and facilities for sports of every kind. The apartment on its character is better, and due to poverty. An astounding gain in March 1891 earned the old three-decker to drag it aside from her head and stern masts. In the meantime the ship had rolled so much that the First Lieutenant was washed off the gang way, killed and nearly drowned while I, who was hanging to get to me, was saved.]

A few weeks afterwards I was appointed to the *Pilot* a training ship for boys. We had one in a water stage would not out of harbor every day, cruise in the channel and anchor at night in the harbor. If not anchored outside. On one such occasion the ship being anchored outside the breakwater. I got up early in the morning and required by the water women plunged a waterboard in a stream. We were near enough to the breakwater for me to catch it and have a run little. I was usually watching the ship when I relaxed as I rode on the deck, sails being hoisted and the cable of the anchor reeling up. She was actually under way when the gun fired, drew the Captain's attention to a seaman. I had to climb up a rope and with what dignity I could scurry through a dense crowd of grinning boys with the surrounded and was stagger bearing questions and demands on it as from the *Pilot*. In the evenings in harbor I often used to even round the little fleet of brigs for exercise.

If there was a heavy gale blowing the Captain Asperquith of teaching would signal us to remove to anchor. But on one occasion this rule was not made because we had been ordered to take ten German boys/shipmen for a cruise. This training ship was visiting the port, and it would never do to let them think we did not go to sea in bad weather, so we sailed close hauled out to the

Religious and ran lower before a stiff southern wind. All the Germans were big heavy young men immaculately dressed. Our midshipmen were small scrawny boys, but our guests came so much that they took up interest in any of the proceedings, even the lunch of a high fat pork, I hope were pronounced delicious.

I got bored with the mental and physical passivity of this life. There was hardly any to know for me to attend to. My intermediates were busy and happy with their job, and I was left to my own thoughts. So I was glad when the sailing season was over and I could return to a more arduous life. At 14 months I was sent down to Plymouth to take temporary medical charge of the *Comus*, another training ship. She was very much isolated from the rest of the Navy, and as the new officers' great coats had not been sent or perhaps feared off. When I arrived by train I found no ship's boat waiting to take me on board so I hired a waterman. On reaching the ship I found a great coat waiting on deck and coming up the gangway, besides I found to my astonishment that I was being paid ahead and that the Captain and all the officers were there to receive me. It appeared that the captain and the officers of the watch took me for a Russian agent and happened to report the command and included for want of a word of a distinguished foreign officer of unknown rank. All circumstances contrary were dropped and I was presumptuously asked what I had not signed off in the ship's boat. It turned out that no boat had been sent for me, so the poor officer of the watch received a double dose of stupidity. This was the only time I was ever paid ahead. The reason extraordinary reason in my time at any rate, it did not matter what rank he held if he was not an executive officer he could not have the paper. He had to reconcile himself with his brass belt, his stripes and his pay.

FRANCIS JEWELL

At last I got my appointment, you really was going ships the *Plancy* a torpedo gunboat sailing out of Aberdeen for the head Indian Station. This was one of the few systems my father had not varied. He had heard sinister accounts of us, midshipmen and actually unknown to me, used to see his influence to get me transferred to more temperate climes. Fortunately the Director General was kind enough to ask me if I wanted to get out of the appointment and I was able to explain that my father's objections for me had led him to take action independently of me. Looking back on my first foreign service of three years, with all its ups and downs, I could not have missed the experience that came out way for anything. The command began uneventfully, December in January was a de place. Its one advantage is that it is not far from the metropolis, but as I had just barely established an understanding with the prettiest and sweetest girl in the world living in Plymouth I was in no mood for the capital except on business. I found my Captain on the main hotel when waiting to pay on the money. We spent the evening together, but as I later words discovered he was always to dinner and after I had introduced myself he hardly spoke to me, but he did tell me that when you reached therefore half of the officers and more would be from the Royal Indian Marine, so the man

would be masters of India he was to get an Indian allowance of eight shillings a day and an Indian's five shillings. There was one thing he said we should expect this when pay, if at the end of six months we had not provided us *Indians*. This was cheering to a junior officer contemplating matrimony. Five whole shillings a day, in those days, was valued as his pay. Trouble began early. I was asked to examine the officer of both men and men-at-arms as it was explained I should have nothing much else to do. The men showed interest on the second day of the examination, nor did he go easily headed. It was then discovered that he was "known to the Police." For some reason the ship was not popular with men generally as that point. In those days a man showed was like a man lost reason. He was taken on as a convict because he did to avoid discipline, wore plain clothes, and could be discharged without notice of satisfaction.

The next against turned out to be a confirmed drunkard. Just before we sailed we were glad to obtain the services of a lad who said he had written to the officers of a merchant ship. The first day at sea I found him asleep in the pantry with his head comfortably supported on the end of our beam. He was promptly sent to the surgeon's men to wait on them. They, however, while two of the most bloody nurses were taken on as stevedores and were stevedores. It was a curious thing that the only time we felt was in danger of sea was on this my first voyage. There were many indications of foul weather when we started and we were so swept into the Bay, I found that the term "monsoon" was no exaggeration. I will do not understand how we escaped sweeps by the mercy of Providence. The tiny little vessel, much smaller than a modern drifter, I this time was bound now and the plates on her sides not very well riveted and rivets together rivets loose and broken. In addition the higher ribs on the main deck had not been properly riveted and green sea poured into the hatchways and thence into the stowage. I was in the windows when the Captain came down for a snack of lunch and the chief engineer told him that in spite of all hands mending the pumps, the water was rising up to the stowage level and the stowage these plates were sliding from side to side. God help us, said the skipper, and He did in the end of time, for the wind went down and veered from the south west to east and north west, and we got into Viper harbor with a lot which was more than uncomfortable.

I think that for two or three days I was as happy as I have ever been in my long life. It was like wandering from a nightmare to find that all our troubles and dangers were gone. But after I had done the best and all the while into the contrary I wanted to go to sea again. However, the damage to the hull and equipment was so bad and the boats were so "rotten" that as expressed that it was nearly a month before we got away.

I think the last night of Calcutta appears as my British man with me and such as the fighting qualities of our ancestors. First, God the gentleman to come out, low up to their standards. Here again more ships, for Calcutta dockyard men to finish what the Americans had left undone. At that time the hospital was closed both on the shore and Viper and the house appeared to be flourishing well. I have along a line in favour of the retention of one method

service for Mary, Mary and her Force. It would be more economical to run it would be interesting and instructive for naval doctors to serve abroad and colonial women and children and Jimmy Jackson would be glad of a period at sea with the Navy. As for the R. A. F. doctor, the one drew back to a most interesting Service in the life of a medical man, with no colleagues which has been down day and night to an aeroplane, no acting as a doctor to a plane. Surely it would be a relief for him if he could serve for a period with others of the other two Services. Long before the aeroplane was thought of I had an opportunity of discussing the fitness of naval and military services with Lord Clarendon, then Lord. He was enthusiastically in favour of it, and any other suggestion of his going to small ships with the perimeter relieving the Commanding Officer as a watch keeper of the ship work and responsibility, for such. He asked me how I liked the Navy and I told him I should be quite happy if only I could have more work. He said he would take up the idea with those Lords-who had no idea about the age long ingrained, common sense of the Navy would kill such a novel proposal. I was aware that Winston's action in this direction has been talked.

Coming on to Malta I met several old friends and acquaintances, but although I searched Victoria high and low for Angeline I did not find her until many years had passed. I should explain that as she had been my wet nurse and a good and faithful servant to my mother I was entrusted with messages and other things for her. After I had asked the baronet of my efforts to find her and wept bitterly at missing her. My Mother and Father had nothing but praise for the efficiency and loyalty of their large staff of Maltese servants. Indeed coming back to England with three small children she brought Angeline and her husband with her and placed the whole company on her parents' table she could not sit up house as her own my Father having to remain in Malta. But that the count and there are delighted to visit for the first time in the winter and for a short time. Recalled to John. Here the Post Medical Officer of H.M.S. a young brother of that great Indian, afterwards Lord Curzon, was very good to me. He took me round his hospital every day and taught me some things about tropical diseases and tropical hygiene which can only be accumulated properly in the tropics and clinically. For the first time I was sorry to continue my voyage. We were very fortunate in getting across the Indian Ocean just before the south-west monsoon broke. For the whole passage the sea was so calm as I have never seen it but our boats' bows were swaying as it always is before the rain.

The first thing to do was to acquire a native teacher of Hindustani to English children. The only difficulty was selection. There were one of the best in some on board with talents, qualities and applications for domestic service. Looking back I feel certain that quite unnecessarily and unnecessarily I have myself to blame. So I agreed to the suggestion made by my father that as selection to be made for I should pay him a bonus of six rupees if I proved to be superior in six months, which was the period laid down by the Admiralty after which in the event of failure the two challenges per annum were paid would be stopped. I had always been fond of languages at school and I had now a Hindu on my forbidden to speak to me in English. Moreover I had almost

nothing to do except to work at this language. I was delighted to find that although it is made up of Arabic, Sanskrit and Persian and therefore entirely foreign to my recollections of Latin, its syntax and the conjugation of its verbs, and nouns were very similar to those of my two native languages. It was very hard to study at my tiny cabin with its jangling ship side and the clomp beat of the gun mounting walking down, but I found a perfect study in the rapid manner" continued on the decked landing place.

One last afternoon on board I was studying by myself in my cabin, with the four men of course. On the opposite side of the cabin but was the engineer receiving in his tiny cabin a lesson from his tutor. After a while I noticed that the pupil, helped by the mastermind, drawing of his teacher, had laid his head on the table and was sound asleep. As soon as the professor realized that his pupil was getting no benefit from his tuition but he very quickly put his head down, too, and was soon also on the land of nod. He made one mistake a fatal one he snored so loudly that he woke the pupil. Most curiously the scholar was filled with anger because his tutor had presumed to fall asleep while teaching him, and he began with harsh words and further blarney, solemnly to assault his own schoolmaster. (He never passed) the exam. The skipper was first favorite for the main station chiefly because his then unexpected resignation saved him all concern and concerned us that he was right. At the end of four months hard work it seemed to me a good idea to present myself for examination in order to have a trial run and see what sort of a task it was. If I passed and my shipmates did not compete or failed, I should be the only officer qualified to apply for the job of interpreter to the ship every ship on the station being entitled to one interpreter at \$74 per annum. When I announced my intention all the other officers decided to have a go too. I have a suspicion that the Board of Examiners, native professors of Bombay University, presided over by a Lieutenant Colonel of the Indian Army, trying four naval officers among the candidates could not have to report all of us as they deliberated to pass the best of the lot, however severely. I was subsequently never called upon to interpret the language but I was appointed interpreter after the Captain had most unwillingly forwarded my application. Nor did he do this until he had sent numerous letters to the President of the Board asking if he had been rejected and his doctor (naval Captain always present in these days in order to the medical officer as these were private property) had passed explaining that he felt sure there had been a mistake. The President's reply was brief and to the point. "You have quite the mistake in thinking your knowledge of Hindustani sufficient and the doctor a misfitment." This correspondence was directed to me by the R.N. surgeon, who was not very well, and in usual thorough.

We were round a horn in Bombay Harbour for seven or eight months while the Government of India arranged with the Admiralty as to our movements. The former agreed that the Fleet belonged to them and could be moved only with their concurrence. The Commander-in-Chief had no objection to have a ship moored in a large cove by detached houses of small stature and poor plumage. Our skipper who suffered from "promoteritis" aggravated in

the morning, yesterday, offered and failed. I walked from the study of language except to talk. Finally, on to the natives, passed the time visiting the military and civil hospitals, and improving my soldier's vocabulary and correct of the addresses club in the afternoon. Smoking before, the officers' dinner hour came at the Yacht Club, where the whole staff and families of both were gathered on the lawn, surrounded by military bands, while the sailors' wealth and beauty took the sea air on the pier outside the gate of the Yacht Club on their magnificent coverings and guns. There were mainly Hanks and Parsons in formal uniforms accompanied by their passionately clad ladies. It was a sight fit for a really good artist, and would have made a wonderful scene in a picture, giving the especially the Parsons ladies, robes of all colors of the rainbow, and the gorgeous costumes.

The south-west entrance looked with a sudden, violent, thunderstorm with torrential rain, and a roll of pale fire which started men clear on the veranda where I had been sitting, from one end to the other, as if they had been dry leaves in a storm. While the rainstorm lasted we would get spoils of three days' and nights of continuous rain about once in two months, otherwise we would have a wet forenoon followed by a fine afternoon with breezes regularly.

The military hospital on the Cuban Peninsula had been rendered almost free of patients by reason of its isolated situation and the comparative ease with which operations could be dealt with. Moreover, it was open to any ladies to show through its airy wards. The patients were nursed by white staff, less likely to have been infected from malaria than natives, whereas, the civil hospital was situated in a densely populated area of the city where malaria was rife. The patients were nursed by Europeans, all of whom had almost certainly had several attacks of malaria. The station orders stated that all naval hospital cases should be sent to the civil hospital. As a result it was quite a common thing for our patients to contract malaria when sent to hospital for other reasons.

Many years afterwards as Principal Medical Officer of the Flagship *Good Hope* I got the Commander in Chief to change some from the civil hospital to the military. Incidentally, I got a few very good tropical courts at the civil hospital attended by, former lieutenants for future promotion but in my time the hospital was ruled by an officer, termed who did not allow tennis for young men because he said it made them hot blooded and unfit for serving male patients.

With no private sports as many as cricket proved to such an extent that I got several good matches, playing for the squadron. The Gymkhana Club and the Tennis, Polo Club of which we several officers were nearly honorary members. The top of the latter club which I was awarded was the most distinguished and looking cricket colour I have ever seen or seen. It was plain light cotton colored with the club's crest embroidered in gold above the pocket. Some Parsibans stole it once afterwards. We played tennis, invariably watched on by interested, when unfurled little boys up to each corner of the court to pick up the balls — they made the game very pleasant. I was quite sorry when we were ordered north to Kanara to carry out rifle shooting at the ranges. The game became

were terribly incompetent and difficult to train. The primary instruction is posted at the end of the period that the only safe place on the range was in front of the target.

We crossed round a bay at Karachi for several months just inside Shapur Point. Here there was a fort manned by gunners and a few officers accompanied by a volunteer arrangement by their wives and families on army school masters and a Russian medical corpsman of the Indian medical service. Most of military subjects were in constant amongst doctors, however that the strongest lively member of the medical profession had become a really expert operator on cystic calculi through the programme. He thought nothing of it. The mortality rate was negligible. Patients came from great distances driven by the fame of this modern middle-aged operator. I do not remember seeing him perform any other operation. So healthy was the climate here that my work was unimpeded and I took up the study of the Persian language. My tutor was a very dignified elderly Mohammedan who had lost all the young men in Persia. I had the good fortune while living alone in a Bombay hotel during the ship's visit in the dock to meet a young Persian learning English and we did a posthaste exchange. He taught me Persian and I taught him English. The residents at Karachi were very kind and passed me an interpreter which enabled me to receive the further appointment of interpreter to the ship of this language in addition to Hindustani. I must have been by far the best paid surgeon of my standing in the service.

I now got leave to go on a shooting expedition in the desert of Sind with my Indian Marine companion who having served in the medical for about ten years had become a capable hunter of both small and big game. On the occasion we were after duck, snipe and wild geese. We went round to the station master about 50-60 miles up the line through the desert that we desired to camp in the evening, cross for four days and wished to have two (trains) and two dhakies carrying our gear. To the assistant I might explain that a *dhakia* in India corresponds fairly well with the dove gentlemen who serve patients up in the Highlands of Scotland when one is lucky enough to go after deer with a rifle.

We took with us the baggage of a native servant. He arranged food for us to supplement the issued stuff cooked it and cut off the skins. He could produce a deer course dinner in the evening from one deer wing, parried giblet and liver and heart for sauce, the rest for pick or preserves, the next coming out of a tin with varying embellishments. He could make an exotic pastry or bun like a *chut*. After a long day on the calculating camel and a bath and change of clothing we entered our tent in the evening followed by the cook and again we used to climb to Bombay since that the most brilliant entertainments were impossible. The navigator was a good raconteur of shooting stories. Every morning before dawn we would mount our mounts with the slightly unbalanced dhakies packed behind us and move off to the large sheets of flood water thickly covered with high reeds. Here we would find narrow torpedo shaped rafts composed of bundles of reeds. One sat on this, outstretched with legs stretched out in front in fear and trembling that the deer would

experts but strange to say it never hit. I cannot think why. It passed our very feet, shot in the early dawn led to what I thought would ruin the whole party. A house of dark gun up and as they came directly across my head I put my gun to my shoulder and leaning a little backwards pulled the trigger. It was a man, "game keeper" and I had never fired at before. It killed him at 40 yds. and sent me flying backwards into my feet of ice cold water. As I had no reserve stock of cartridges along on my back and hips I ought to have been dressed and certainly my cartridges ought to have been soaked and to maintain my own gun, but somehow I managed to grip the raft and haul myself on board. When I got the strain out of the water he was very "game" clattering and snaky. He paddled our clumsy vessel to a bit of dry land and we took stock of our situation. He wanted to make a date and hardly disguised his contempt of me and his general position. However, by this time the sun was well up in a cloudless sky and I had stripped to a girdle and was spreading my clothes out to dry. With the strange conduct of these people he would only remove his outer garments. Next I laid out the circumstances in the sun and cleared the gun. That day I got two boxes of duck in a downy trap. Following in the evening to dinner I reported my mate who had had an even bigger bag, and met an ardent young soldier who had served from the Kanawha garrison just after we had set out in the morning. He followed us very closely to within from a distance my cigarette nicotine. He had had very bad luck all day, but said that it was well worth all it had cost him just to see my first shot and my victory, backward day.

I have always since then been grateful for the warmth of the Indian sun. Next day we went trampng the deer down after sand grouse. I got a right and left and three other brace and as a matter was quite satisfied. In my wanderings I even across an acquaintance of Medicine who most kindly offered me what looked like a delicious bowl of milk and I find a sheep that only the newness to the desert can represent. To my great disappointment it was sour, but I swallowed it and was just the worse. On returning to the ship we heard that orders had been received for us to depart on with our water dispatch to the harbor to do target practice at sea with our 17 and it possible and then to make a night attack on Fouquier Harbor which could be defended by the forts and to a still somewhat that historical vessels carrying 10 or 12 guns. We all except the skipper thought it a hole was there to fire black charges. The only reality was the attempt to get onto and up the harbor without being seen or heard.

The skipper was in such deadly earnest about the whole thing that he gave me several on loaded orders, to take the navigator off the ship and let him be well. "We are on a hole now and I am going to have all the work at this in two parts." I explained that the navigator was in bed with acute rheumatism a week and on the lower part. Finally he sent me a letter demanding my account in writing why the navigator should not be sent on a chair on the bridge and even on his navigating duties during the night attack on Fouquier. I patiently wrote up my story on acute rheumatism, its potential complications and treatment. The skipper gave me up as a stupid obstinate weakling whom

he was asked to assist. We next went down to see the navigator and tried to induce him to ignore me and come up to the bridge to help him. The navigator said he was not an expert in the R. N. school of discipline but on the Indian Marine we had to obey the doctor while on the deck but and he must respectfully insist doctors to discipline me.

After several other similar incidents and to counter them on the part of the passengers I strongly suspected inequity G. P. I. but the only team he would let me examine or treat him was at 12 noon after a low hearty Christmas dinner at the club where he was consuming with evident gusto. I had to give him a hypodermic of morphine after I had satisfied myself that palpated no other of the pain rather than increased it. I sent for the sick berth steward to come at once with the necessary gear but also he also had been celebrating Christmas while the steeper he was full of brotherly love for me and every one else and his wife's wishes. Postponing any remarks on his condition until he had returned to his usual everyday deportment I gave the injection and we all slept well and feeling fit, had dinner. It was the common opinion that the Captain was a very excellent and very successful officer but I never heard one who suggest he was insane. Not long after these episodes my scheduled time in the Hospital had expired and I was due to be returned and to go home unless there was a vacancy to be filled on the station. Before I could get out the purpose of the Red Cross postcard was revealed to England. As the sailing at Calcutta due to sail almost at once for Mauritius and Seychelles I was sent across India from Bombay to Calcutta by train. The journey in those days took three nights and two days. There was no dining car but the train stopped at suitable intervals for meals in the dining restaurants. First class passengers were segregated white from natives—a distinction of class were allowed in each compartment and at bedtime two upper and two lower berths were made up.

I found the journey quite comfortable. It was Christmas time and not too hot. I never had more than one middle companion. I arrived at Calcutta at dawn and found the temperature so much cooler than at Bombay that having loaded my baggage into a gharry I walked to the docks to join my ship. I was sure the driver thought I must be mad to hire a carriage and then, walk to town two or three miles but the air was bracing and I needed the exercise. Luckily there was plenty of time. It gave me an opportunity to see something of the magnificent city. The very next day we dropped down the Hooghly in company with the Flagship, the *Shanahan*, an old square rigged first class cruiser and a modern third class cruiser together with a gunboat, a motor to escort during the cruise to the north. We frequently hunted the river and had to keep station under sail. But also was not if it was thought likely to meet steam or steady the sailing.

At Mauritius

We spent several weeks at anchor at one or other of the islands in the Indian Ocean. The inhabitants were evidently very pleased to see us. I have no idea that the officers of the gunboat at Mauritius were not popular with the

colonists. Anyhow, everything in and out of the saloons and dinettes were at the numerous parties which took place was very elegant. Ladies were granted free seats on these boats, and I observed that several first-class officers staying at the house during the visit of the squadron. None of us slept at the capital Port Louis, which was said to be infected with malaria. By far the majority of the inhabitants spoke French, the better educated being bilingual. At the few open houses the only songs I heard were an French and much of the singing of the choir was lost to me. At New-Orleans there were very few pure-white people but a large population of negroes and colored people, the latter claiming to be "Creole English" — a fairly accurate description, as I understood, that a creole is one born of European parents in a French Colony. I was told by several of the other sailors that there were men in view, by the experiment in the saloons had discipline of the lower deck. In the mid-days a vent of the squadron was particularly dreaded, and every minute was hurried in the evenings when the men looked because of the various behavior of the great majority of the sailors after their long sea trips. Now they were almost all of them sober and courteous gentlemen. One exception I am sure to mention was a young midshipman named who, having observed a bottle of whiskey at the hands and end of the long pipe at breakfast, begged it during the sailing of the yacht to the sea and then he should feel to smuggle it on board. He died of acute alcoholism. I want not fail to mention in telling of New-Orleans the new first-class men, the more intelligent, to the sailors. In appearance it looks like two accounts joined together headless like a man's torso.

After some excellent shooting at Rodrigues Island, north of the great level and rapid, we crossed north independently. Incidentally, this being my first motion boat shoot I was amazed at its general characteristics of the first the first shot at run at considerable speed the back cover before it could be refused to get up, and the second shot although palpably and obviously but it would appear as being customary while the vessel and would get down away. No doubt the toughness of them as these birds accounts for the dead to me much larger shot than I had been accustomed to, as on when after dark.

Continued

We were now detached from the squadron and ordered north to Colombo, and very soon was our very bad weather to reveal which, and to obtain a favorable wind, we made a long detour, during which the shipper was taken care of with malaria accompanied by especially severe prolonged pyrexia and exhaustion. It was with the greatest difficulty that I persuaded him to sleep in his berth. From there he insisted on taking charge of the navigation of the ship, evidently anxious but the navigator, a very young lieutenant, should make a recommendation. That officer on the other hand insisted that he was not, in command and would limit his interference to a lieutenant's orders who was on the sick list and therefore temporarily unavailable. Hearing a loud and violent altercation going on in our patient's cabin I broke in upon the debate and advised a compromise: the shipper to be kept informed of every move and show on board and the navigator to carry on until I found the shipper well enough to take over.

There was the hint of many of my visits to this fine harbor and city in the course of my naval service. With wind all about the approaching traveller reefed, then exposed the open coast, and on landing one was struck with the broad smooth bright red sands contrasting with the bright green luxuriant vegetation. The wet rugged flat bottom fishing boats with one or two of the crew perched in hollowing make-nights on the weather side, seemed to run up the beach at an alarming speed. Looked at from behind the vast majority of native natives looked like women with their long hair reaching below the shoulders and their ankle length skirts. There is the legend of the newly arrived and adventurously innocent blue jacket chasing one of these native gentlemen through the mangrove of Colapagos until both were stopped by the police and the boat almost as long as the hair of hair surrounded the line-dancers, insisted that he was among them again. The custom of wearing their beautiful beards with occasional encroachments the usual parasites associated with negligent attention, as it was a common thing to see a row of female or children in native villages regarding one behind the other hands engaged in de lousing each other. I am talking of what I saw on the early centuries and the next decade. Perhaps with self government and Despatcher visits old customs have died out. After a brief stay we moved round the coast to the Royal detached post of Temacunda.

At the centre of the entrance to this magnificent harbor is a shoal worked by the wind buoy. In the small pond on one distant very high water, and it was a matter of indifference whether we passed it on the harbor side or port side but it would be a dreadful thing to touch the buoy. The boat however between the new recovered shipper and the rather suspicious navigation command, looks out again as we approached harbor and the latter protested that it was his duty and his responsibility. He wanted to leave the buoy on the port side and the skipper preferred the starboard. Before they could conclude the argument the unknown responsibility by steering the ship being into the buoy, as confused was he by contradictory orders. No doubt the skipper would have been most startled for his opposition, but for the fact that the skipper was expecting his promotion when every half yearly list was published and very much wanted to avoid any litigation at such a delicate time. Fortunately for both of them the good little ship passed safely over the shoal and the buoy was acquiesced. As we were the only ship in harbor nothing more was heard of other promotions. The lieutenant commander previously became an Admiral flying his flag as Commander in Chief, Borneo, and no doubt the navigation would have fallen off at the same steps of promotion had he been less quarrelsome and selfish. He gave up navigation and returned to "ash shore" working the rank of Commander. Unfortunately being given temporary command of an important new type of ship he reconsidered their Lordships intentions as to the command of the experiments and when approached by a Captain went at a half to the retired list. I am sure he must have bitterly regretted his impulsive action because he was always a very keen able officer. I have observed the slender row of names of his most valued promising officers in which

branches, due entirely to capillary action induced by hypersensitive self-reliance. So different from the bearing of a very young chaplain, who had been counted by the outgoing Archbishop that he was representing the chapter as his successor and that the appointment was a frequent occurrence, only to find that the first Lord of the tape was too heavy to sustain its common circulation and appointed the first scribe on the list, observing that his results did not leave a hole in Archbishop's name as that he did. My hasty conclusion was: "If all life is here, why should I worry? I am concerned only with the life hereafter, the Eternal Life," and I am quite sure for most of it. What a lot of heartache and heart burning would be avoided if all time were of the same kind as the chapter!

To return to Propositions on the morning air, best of that year: the whole district was covered with lighter green vegetation and the grass on the meadow where we played golf was in perfect condition, all because the north east monsoon was blowing and bringing rain to the northern districts of the Island, also covering the north west monsoon season: the rain it brought was caught by the mountains of the island and spent itself there, with the result that not a blade of grass could be seen on the meadow, nor did the closest quarters of the ground give any hope of a revival of the state. Yet in a few months the place would be brilliantly green again, and after rain.

The day before we sailed again I spent up to me, leave sleeping in some marshes, and in a garden, fields. Very early in the morning I had expected to bring with me a change of linen and socks, and I was down back in the cold evening, to come back to sleep in a high district. Although I had a hot bath and change on arrival at my hotel, some of my feet and legs had been cold and wet for some hours. Soon after dinner symptoms of acute dysentery appeared. We ended the next morning in a storm, set up to the coast to Bontap. I had acute dysentery, was very weak, and had to attend to my duties on the only medical officer. My worst trial was the absence of fresh milk. I had no other work, so had to be married on ship and tea. On arrival at Bontap, my medical colleague took over and sent me as a patient up to the charming government hill station at Madras in the Glen. Here on a diet of good food with port wine, my temperature in the half-past, I made a rapid recovery and was soon taking in the morning well playing tennis, in the afternoon. My medical attendant was a young Indian medical officer with long experience of the dangers of India. He said that he had found that diet, milk and meat had to change it until in a few days the stools were normal and numerous remained. That was in 1914 and the only day he ever saw was quinine.

While sitting in my room with a good company of correspondents and some charming lady visitors, three appointed letters in a wretched manner from India. Of course I played little or no ball in previous, nor did I think any of my companions, but in an afternoon we played one game at his disposal. I had formed a close friendship with a young Indian medical officer and he was sitting next to me. The letters told me of me: "What making plenty of money and getting plenty, make. None of us thought he had made a good game between two men, know that however defective the

Sorry by no one makes a fortune at it. As for the medals on war was raging or in prospect, but in later years I did so in fact acquire (by her means) more money than I ever dreamed of and I did so even by the end of the 1814 War those gold medals and her war decorations at that time more than I had ever contemplated and more than most of my contemporaries. When my friend's hand was examined the authorities here told he said 'Slightly even going on with it now was then all darkness. I so like the war good. When we found that we reason to suppose that he would have been for many years and all of us were confirmed in our perception of the patient's fate, twice and discussed the matter then our minds could possibly afterwards I heard that our friend was ill in hospital in Bombay. I went to see him and was surprised to find how ill this hitherto strong healthy young man was looking. He was attended by one of the best and most experienced Indian medical officers who told me he could make no definite diagnosis but the prognosis was bad and he would be reached home. I now heard to my sorrow that my friend had died in the field too on his way home. Then I remembered the patient's disease. It is a long time I have heard that one should not deliberate in any matter simply because one cannot understand them. I do not understand in the immediate Convulsion or second night although I cannot understand them in the above incident. No one really fully understands electricity but we believe in it all of us.

(To be continued)

TWO IMPORTANT NAVAL CONTRIBUTIONS TO THE PRACTICE OF VASCULAR SURGERY

BY

LAMBERT ROGERS, V.M.D.

*Professor of Surgery, University of Wales
and Assistant in Vascular Surgery to the Royal Navy*

He was the first that ever lived
1810 that others were.

THOMAS is in debt to the Royal Navy for two important contributions to its practice namely the cutting short of arterial ligatures and the demonstration of the fact that the common carotid artery can be safely and successfully ligated in the neck.

To do well in this the rightmost century it was the practice to leave the ligature ends long and hanging out of the wound so that as suppuration took place and the ligatures surrounded by necrosis and granulation they could be gently pulled upon until they came away usually somewhere between the second and fourth weeks. From time to time however it was observed that so called lambskin pins did not always support and yet the vessel healed usually in the first intention and in 1786 Mr. Lambert Rogers an Assistant Surgeon in the Royal Hospital at Brompton cut the ligatures short. Meticulously and

[illegible]

The hydrae sometimes become troublesome and crowded the cage, an inmate forced to some comparison of great distance, proposed to cut the ends of those off close to the base and then leave them to themselves. In following this plan, we have seen examples healed in the course of ten days. The dying hydrae then left an enormous median scar, and in a small opening in a short time without new growth, or the wound being merely of skin.

Downloaded At: 11:53 11 September 2009

The first successful ignition of the common-carried error, was performed on 17th October, 1987, by David Fleming & others on board H.M.S. *Porpoise*.



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[illegible]

operation being performed." The patient was discharged from the unit, but on 26th December 1863 and returned as an out-patient on the unit until March 1864, when he was sent to Plymouth Hospital to be watched.

The edition of the *British Medical Journal* (1877) in which this account of this case appears, comments: "We believe that this interesting case presents the first and only instance where the criminal history was taken up after a rupture or wound of the artery itself and left preserved. Naval Surgery may justly be proud of this operation."

What do we know of these two men, Laurence Hare and David Fleming? Hare's obituary notice has been quoted above appears in a letter sent to H. Marshall on Mr. Lucas's Practical Observations on Amputation, published in the *London Medical Journal* for 1795 which describes him as a surgeon at Southminster in Essex, Member of the Corporation of Surgeons of London and formerly Assistant Surgeon to the Royal Hospital at Windsor. Unfortunately my copies, at Haver and a search of the records of the University library and in the list of warrants at the Public Registry Office, for which I am indebted to the Medical Department (S.D.O. 24331 (18)) have failed to trace this effort, as a single name born of interest to have known something more of him.

The Medical Department have kindly supplied me with the following information about David Fleming. According to the information available in the Admiralty David Fleming, Surgeon, arrived at their quarters with company of 18th April 1795 on H.M.S. *Swampy*, *Porpoise*, *Tonnant* and *Cerberus*. While serving on the latter ship on the East India he died on 12nd October 1800.¹ It will be seen, therefore, that he died only three years after his successful operation and the account of it did not appear until ten years after his death.

Here then are two almost but not quite male surgeons, William Robinson in good, neither of whom sought publicity, but was content to have done something for his profession, and in consequence of his effort left the profession a little better than when he entered it. Among those illustrious members of the Royal Naval Medical Service such as James Lind and Charles Darnley whose names are household words it is well to include these men whose work makes them worthy to take their place with the common and the high priests of their calling. It would be well if the names of Laurence Hare of Haver and David Fleming the surgeon of H.M.S. *Tonnant* were remembered a better memory is preserved and the good vessels are lighted.

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THE ROYAL NAVAL BLOOD TRANSFUSION SERVICE 1918-45

BY

Surgeon Captain R. C. RAINSFORD, R.N.

FORGET WITH REGARD TO BLOOD TRANSFUSION IN TOTAL HOSPITALS
BY THE OUTBREAK OF WAR

The policy adopted by naval hospitals, with regard to blood transfusion immediately prior to the outbreak of war differed little if at all from that practised in the large civilian hospitals and other medical establishments throughout the country. The use of stored blood and the development of the blood bank, for use as an emergency for the treatment of casualties rose then only to its infancy and had not been generally adopted. The usual practice therefore was to use fresh blood which was drawn from a donor after the emergency had passed.

There was no recognised standard technique for blood grouping for bleeding a donor or for giving a transfusion. The apparatus and technique employed depended entirely on the whims and fancies of the medical officer responsible for administering the transfusion and the apparatus used was usually a proprietary article the product of a commercial firm. Further more, not only did every hospital have its own technique but it was not infrequent to find several methods all employing different forms of apparatus, being practised in one hospital simultaneously.

There was therefore at the outbreak of war no standard technique of giving a blood transfusion so which large numbers of medical officers, using staff or technique could be trained and no standard apparatus with which they could become familiar. It was apparent therefore that for training purposes alone a standard technique using a standard type of apparatus would have to be adopted and uniformly practised throughout the country, this was also essential if transfusion apparatus was to be provided in the quantities necessary in time of war for it would have to be produced on a mass production scale.

One of the most important steps taken by the Ministry of Health in the outbreak of war was its signature in co-operation with the Federal Board for Control and the War Office a National Transfusion Service. The whole country with the exception of London was divided into nine Transfusion Regions each with its own Director. Eight of these were under the administration of the Ministry of Health and one, the largest, under Army

HT's. London was treated as a special entity, and divided into four areas with Headquarters at Stough, Wandsworth, Lambeth and Islington. These areas were administered by the Medical Research Council to whom their Donors were responsible. Each region was responsible for sending Donor Groups for collecting blood, made their own use and for supplying it to the various hospitals in that area. They were also responsible for supplying all the transfusion apparatus required, packed, stored and ready for use and for the training of mobile blood transfusion and transfusion teams to work in any part of that area, whenever an emergency should arise.

The Medical Research Council also set up two advisory Committees - The Blood Transfusion Research Committee and The Transfusion Blood Committee. On both of these Committees there was a representative from each of the three Fighting Services and from each of the Blood Transfusion Regions in addition to the Medical Research Council representatives (see Diagram No 1).

Once this organisation had been set up, all matters pertaining to blood transfusion developed rapidly. A standard technique for blood donors and standard methods of administering transfusions were decided upon. The necessary apparatus and equipment was ordered through the Ministry of Supply also put into mass production. In the design of apparatus the Army Blood Transfusion Service under its Director Sir Lionel White, played a major part. The Army had given much thought to the problem of mass collection and blood transfusion in the 'Field' prior to the war and when war broke out it already had plans and designs prepared. The Army was, therefore, in a position on the outbreak of war to get off to a flying start in this matter and there is no doubt that it took the lead.

In 1940 as a direct result of the deliberations of the two Medical Research Council Committees War Memorandum No 1 *The Treatment of Fractures* Blood was published. This Memorandum gave a complete exposition of all the recommended methods and techniques required for the collection and administration of blood and for the care, packing and distribution of all apparatus. This Memorandum greatly helped to standardise methods and techniques throughout the country.

During the period which elapsed between the outbreak of war and the end of 1940 there had been a great increase in the number of war quarters and naval hospitals established throughout the country. The smaller naval hospitals and war quarters had sufficient laboratory facilities to operate their own blood banks and relied upon their local Ministry of Health District Blood Centres for supplies of blood and transfusion equipment. During 1941 the Admiralty put a heavy stress on the various Blood Transfusion Regions and it was as much as they could do to supply sufficient blood and equipment to deal with the critical conditions in their own areas. The Admiralty at this time therefore laid it down as principle that each hospital where laboratory facilities were such that it could carry out blood and transfusion tests, should be self supporting in the matter of blood and that it should keep and operate its own blood bank using volunteer donors drawn from local per-



Diagram 1.—Showing the organization of U.S. hospitals being the PRH as they

existed in 1940. The need for medical establishments in this country was not a problem, however, could not be successfully solved by the use of medical supplies had been used automatically in view of the fact that the country had no medical establishments which could be regarded as a legitimate target for the Luftwaffe. These hospitals therefore had to continue to call upon the Regional Procurement Office for assistance.

POLICY WITH REGARD TO BLOOD TRANSFUSION IN SHIPS IMMEDIATELY
FROM THE WAR

Prior to the war, much consideration had been given to the advisability of providing facilities for administering blood to the injured on board ship. It was not considered feasible to keep a blood bank on board ship, even on a capital ship. It must be remembered, at this time, that the life of stored blood under the most ideal conditions of refrigeration was considered to be not more than seven days and on board ship, where it would be subjected to the effects of vibration, its life would be considerably shortened. The only feasible method of giving a blood transfusion on board ship, therefore, was to use fresh blood obtained from a donor amongst the crew. There were, very many, good reasons why such a procedure was not advisable, the chief objection being that there was no practical method available by which the blood group of a donor could be accurately determined on board ship. At the commencement of the war, medical officers and ward ship were not. Thus, James Huxford, for they had received no special instruction on the subject of blood transfusion or on blood grouping. In addition the only typing serum obtainable came from commercial firms and was of very doubtful potency and in keeping position extremely poor.

It was, therefore, considered at this stage of the war that medical officers should not be encouraged to administer blood transfusions on board ship. For this reason, they were given no real facilities to do so.

It is true that every ship carrying a medical officer was supplied with a Bland-Sutton apparatus, but before it could be used for bleeding a donor or for giving a transfusion, the medical officer had to assemble it, sterilise it and, in addition, prepare and sterilise the citrate solution for use with it, and all this had to be done on board and at sea. Needless to say, this apparatus was scarcely used, if at all, and in any case, on most ships, with the exception of capital ships, adequate facilities for the collection of the apparatus and the preparation and sterilisation of the citrate solution did not exist.

That this policy was the correct one in respect of this stage of the war was later confirmed, for it soon became apparent that the most simple methods of blood grouping in regard to that time were not reliable as accurate as an alien serum can be expressed and viewed technicisms. The error in blood grouping amongst the British in the various regions at this time was estimated to be not lower than 5 per cent, and was often as high as 20 per cent.

It was not until the techniques and principles had developed in War Memorandum No. 5: *The Determination of Blood Groups* had been generally adopted that blood grouping throughout the country can be said to have attained a reasonably degree of accuracy. This procedure entails the examination of the agglutinogens of the donor's cells and the application of the donor's serum and, in effect, the use of cells of a known blood group. A detailed examination of this kind is not practical on board ship.

It was for these reasons that the Admiralty, adhering to the policy of the restricting blood transfusion on board ships until 1942

THE EFFICIENCY OF THE 1940 'MIX'

As a result of the First 'Mix', a great deal was learnt concerning the treatment of transfusion shock during wartime sea and coastal operations. The value of blood products such as serum and plasma in the treatment of oligæmic shock, and especially their value in secondary shock, following action trauma, was clearly demonstrated. In 1940-41 (Gibson, 1951) and 1942-3 (writing for the Medical Research Council) had developed a open freezing method by which the blood products could be dried and bottled in an atmosphere of dry nitrogen which would prevent a thrombotic ageing and deterioration for very long periods, two or possibly three years. An experimental phase, capable of drying ten hundred bottles each containing 400 c.c. of serum or plasma per week, had been set up at Cambridge for the Medical Research Council. By the end of 1941 experimental work had shown that serum or plasma bottled and dried in this 'Gibson's' process was safe to transfuse after being stored for many months at the ambient temperature, occurring in this country. It was also shown that blood grouping sera could be dried and when stored in a dry state would retain its potency for very long periods. To improve the standard of grouping serum available throughout the country, the Medical Research Council set upon 1940 the establishment of the Cambridge sea laboratory, Cambridge for selecting high-titred human sera. This laboratory was, in 1941, capable of supplying reliable standard high-titred anti-A and anti-B sera to all who requested it, including the Royal Navy.

In relation to these events the objective there was in 1941 a considerable influx into the Royal Navy of young medical officers who had had practical experience of transfusion methods for the maintenance of the injured during the 1918-19. They realised to the full the practical value of these methods. In addition to these new entries, a considerable proportion of naval medical officers had, during these war years, passed through naval hospitals and had seen the methods used there for the treatment of arterial casualties. The Royal Medical Service was, therefore, by the beginning of 1941 becoming 'Transfusion Minded'.

Medical officers on ships commenced to agitate for better transfusion facilities, to be made as viable to them as land. Some of the more interesting as yet seen in the context of 'concentrating liquid plasma and apparatus from the land to influence ships in ports visited by these ships.

As a direct result of these developments, it was concluded that H.M. Ships carrying medical officers should be supplied with dried serum or dried plasma, sterile saline or water to reconstitute this material and blood transfusion apparatus for its administration.

THE REQUIREMENT FOR A NEAR-BATTERED SHIP

In view of the difficulties arising with regard to the conservation of supplies pertaining to ships, the Medical Research Council in the beginning of 1941 offered the Admiralty half the output of their Experimental Drying Plant at Cambridge. As already mentioned, this had a potential output of 10-1500 bottles per year. At this time, however, the Blood Transfusion Regions, as a direct result of the 'Mix', were themselves short of blood products and what

was even more, of donors. The new material to provide 180 bottles of serum a week to be used at the Cambridge Plant had therefore to come from naval sources. A naval bleeding unit was accordingly formed and consisted of one Surgeon Lieutenant, one naval caterer, and four naval V.A.D.s. The duty of this unit was to visit naval establishments and call the volunteer donors and bleed them. The blood thus collected into bottles was allowed to clot and these bottles were forwarded to the North West London Regional Supply Depot, Plough, which was directed by Dr Janet Vaughan on behalf of the Medical Research Council. Here the serum was separated from the clot and forwarded to Cambridge where it was filtered and dried by the Medical Research Council Experimental Plant. By agreement between the Admiralty and the Medical Research Council, Dr Janet Vaughan was allocated laboratory space, six of which was in the form of six naval V.A.D.s and three N.E. ratings (1). This bleeding unit collected approximately 300 to 400 parts of blood per week, working four days per week. This rate of bleeding was sufficient at this time to cover the requirements as it needed not more than two and a half parts of blood to produce one bottle of serum.

THE FORMATION OF A ROYAL NAVAL BLOOD TRANSFUSION UNIT

In September 1941 the Medical Research Council offered the navy the entire output from their Experimental Plant, i.e. two hundred bottles per week. The North West London Depot, however, indicated that even with naval assistance they were not prepared to handle more than three hundred parts of naval blood per week. In order therefore to produce the extra one hundred required the another one hundred bottles of serum, another source of supply had to be sought. It was arranged between the Admiralty and the Ministry of Health that another naval bleeding unit should be formed and that this should draw blood from celiac donors at Boreas No. 2 under the direction of Dr W. S. Kennedy. This unit consisted of eight naval V.A.D.s, two N.E. ratings (1) and a Surgeon Lieutenant. The serum from the blood collected by this unit was separated at the Boreas No. 1 laboratories at the School of Medicine, Leeds. It will be seen that these two units which consisted of three medical officers, one nursing sister, eighteen V.A.D.s and eight N.E. ratings (1) were being employed at this time to bleed 600 donors and to separate 90 litres of additional serum per week. That such an arrangement was envisaged in a degree was shown later after the Royal Naval Blood Transfusion Service was established, for it was found then that this staff would have been adequate to bleed 1,800 donors and collect 360 litres of serum per week. As things turned out, however, this arrangement proved to be of considerable value to the Navy, for later, when the Royal Naval Blood Transfusion Service was established early in 1942, these two units helped to form the nucleus of a trained staff on which this organisation was eventually built up. By the end of 1941, 5,000 bottles of dried serum had been sent to the Fleet, together with 5,000 bottles of citrate saline. The saline solution, which was required for reconstituting the serum, was prepared for the Navy by a commercial firm under contract to the Admiralty. Most of these materials

was completed during the latter half of 1941 for the treatment of venereal disease. During the same six months operations carried out by Combined Operations Command. The jetting and some of these materials, together with the supply of sterile administration apparatus, was at this time being handled centrally by the Supply Division of the Medical Department of the Admiralty, through one of their Medical Stores Depots under the direction of the superintendent pharmacist.

The practical value of these materials for the treatment of venereal disease itself was soon demonstrated and it became obvious that the available supply of these materials was quite insufficient to cope with the demand. At the end of 1941 complaints were being received concerning the quality of the saline being supplied for a large percentage of hospitals showed a growth of venereal sores. The supply of administration sets was also apparently inadequate. Some hospitals too complained that they were short of blood products and had insufficient staff and equipment to process these with plasma from their own blood banks.

THE ESTABLISHMENT OF THE ROYAL NAVAL BLOOD TRANSFUSION SERVICE

The Medical Director-General, Sir Thomas Blizard, decided at the end of 1941 to establish a Royal Naval Blood Transfusion Service and appointed Surgeon Captain H. G. Ramsford R.N. as Medical Officer in Charge.

At a meeting of the Blood Transfusion Research Committee held early in 1942, the Medical Research Council advised that an Experimental Drying and Filtration Plant at Cambridge would no longer be available for handling blood products after September 1942. The Wellcome Trust, however, had offered £10,000 towards the cost of erecting a drying plant if it was considered to be a national requirement. Since May 1941 this had been something of a fall in the air at the Admiralty, and during the fall the various Regions had been endeavouring to build up a stock of blood products. It was now apparent that although the keeping quality of these was much superior to that of whole blood, there were notable deficiencies. The life of liquid plasma in serum cooled from one to four was the depending on the method used in processing it. There was therefore at this time a considerable shortage of these products being placed. It was unanimously decided at this meeting that the only practical method available for preventing this was to use the only way in which stocks of these products could be built up, namely a future emergency such as a recurrence of the 'Abe' would be to dry them by the freeze process. It was therefore agreed that there was a national requirement and that the offer from the Wellcome Trust should be accepted. The problems which now remained to be decided at this meeting were: (a) how large a plant should be erected; (b) who should manage it; and (c) how should personnel required for its operation be obtained. The Medical Director-General's representative advised that the Royal Navy's requirements would be at least 500 bottles per week and in view of this the Medical Director-General had agreed to help in the matter of personnel by providing a number of Naval V.A.D.s. It

was eventually decided that the Fleet should be capable of doing under ordinary running conditions 3000 bottles per week and that it should be administered by the Ministry of Health and that any additional staff other than night men of V.A.D. should be the responsibility of the Ministry of Health. The Royal Navy would, when once there was a Transfusion Service was approved, take all its own stores and forward it to the Ministry of Health Diving Fleet which it was agreed should be sited at Cambridge, as this would allow the Government to continue contact with it and give advice when required. Cambridge University had agreed to allocate the space required for the installation of this plant at Downing College.

When planning the expansion of the Royal Naval Blood Transfusion Service it was realised that to begin with there would be a serious lack of trained personnel. The Service would therefore have to be built up gradually and be expanded as more and more trained personnel became available. There would have to be a careful beginning. The primary object of the Transfusion Service would be to improve and provide better facilities for the treatment of transfusion shock on board ship. It was considered that naval hospitals and war quarters could continue quite well for the time being under the system by which they obtained help when necessary from the local Regional Transfusion Office. It was however felt that although the supply of dried blood, products whole and transfusion apparatus in adequate quantities, to ships should have the highest priority, there was still a requirement for whole blood transfusion on board ship and the development of a method by which whole blood transfusions could be carried out at sea should be the concern of the Royal Naval Blood Transfusion Service. To make whole blood transfusion reasonably safe at sea there were two essential requirements: namely, a method which fully treated in all matters pertaining to blood transfusion and an accurately blood-grouped population on board from which he could draw donors. It was considered that if 10 per cent. of the entire personnel of the navy could be accurately typed and placed in their correct blood group, this would afford a reasonable chance of a number of accurately grouped unserved donors being available in every ship at sea. The objects of the Royal Naval Blood Transfusion Service could therefore be stated in the following order of priority:

- (a) To train medical officers and nursing staff and laboratory technicians in all matters pertaining to blood transfusion so as to allow the Royal Naval Blood Transfusion Service to expand and to make transfusion safe and easy on board ship.
- (b) To blood and group as many naval personnel as possible, and to provide a possible source of donors for the ships and bases where a serious risk, particularly at sea, would be reasonably grouped.
- (c) To provide ships with adequate quantities of dried blood plasma, and whole plasma, physiological saline solution for the expansion stage.
- (d) To provide ships with adequate quantities of transfusion apparatus, packed unserved blood and ready for use.
- (e) To provide naval hospitals and war quarters with liquid plasma and transfusion apparatus.
- (f) To provide all crystallised substances in powder form for the entire navy.

- (c) Eventually, to help the V.C. experimenters, Services set up the supply of blood for trying to breed mice for the white rats. In addition, a commercial blood bank on which the Army and a small quantity on the United Kingdom could make, to which the CEFU relied.

It was realized that if the next urgent requirement, namely the supply of blood serum to ships on adequate quantities, was to become an accomplished within a reasonable period of time, more donors would have to be recruited and that it was not considered practicable at this stage to attempt to limit more than 100 to eight hundred annual personnel per week. The agreement between the Admiralty and the Ministry of Health by which a naval unit was given facilities to bleed certain donors in Region No. 2 had never worked smoothly, partly because of the friction between the naval V & Ds and the civilian V & Ds working for the region. These two differing bureaux although ostensibly the same by reason of their attachment to the British Red Cross and Saint John Organizations, were in practice entirely different, and for this reason they never mixed. The civilian V & Ds were unsuitable and most of them lived at home, whereas the naval V & Ds were induced under naval conditions in a private hotel. It had been hoped that the arrangements would not be available after June 1942. Furthermore it had been found impossible to obtain any other suitable accommodation for these V & Ds in Leeds. For this reason, therefore it was decided to remove all the naval V & Ds from Leeds to London in June 1942 and a new agreement was made between the Admiralty and the Ministry of Health by which Region No. 1 would bleed for the navy, approximately one thousand donors per week, and supply the naval laboratories with 170 litres of conditioned serum separated from blood thus obtained. The nursing staff required to carry out this programme would be provided by the Ministry of Health and as the matter of personnel the only advantage that would be afforded Region No. 1 by the Admiralty, would be to provide one medical officer and one sick berth rating (Sb). The navy would supply Region No. 1 with all the apparatus required for bleeding donors and assist Region No. 1 in obtaining any other necessary equipment. It would also afford the Region some assistance in transport, providing one motor vehicle for the transportation of serum etc. The main advantage of this scheme was that it secured the supply of a constant supply of serum for it was known that the region had the largest donor potential anywhere in the country. It also provided the Royal Naval Blood Transfusion Service in London with a number of trained staff on which to build up its organization. The agreement was put into operation in August 1942.

In February 1942 part of the Royal Veterinary College, Gordon Town, R.F.P. was requisitioned as the headquarters and laboratories of the Royal Naval Blood Transfusion Service. The building had only been completed in 1937 and was inadequately equipped with lecture rooms, laboratories and refrigerators and incubator rooms. It was the oldest building the effect was required but it had been severely damaged in the Blitz of 1940. A great deal of repair work and alterations were necessary. These were undertaken by C.E. m.C. when the Medical Officer in Charge had indicated his requirements.

In addition to the laboratory, storage space was obtained at the building for V & D quarters sufficient to house and sleep fifteen V & D's. The building was not ready for occupation until 21th June, 1942 but in the meantime a great deal was accomplished. Shortly the equipping V & D quarters had to be the most rapid industrial staff in the form of female cleaners and male labourers had to be engaged and a transport service had to be organized in co-operation with Naval Stores Laboratory. Lardelling and cooking equipment and laboratory equipment some of which was specially designed had to be ordered. An efficient lighting service was treated by an arrangement with the N.F.S. Incandescent groups and refrigeration had all to be serviced and put in working order by R.R.C. (Electric Division). All this was accomplished at a time when the industrial production of the country was only just getting back on its feet after the tremendous disorganization produced by the blitz.

Until June 1942 the principal bleeding units were bleeding in several retail laboratories and one operating in Hagon No. 1. Bleeding machines captured their own share. The blood received from Hagon No. 1 being forwarded to Hants and that from No. 2 to Leeds, where the serum was separated and forwarded to Cambridge for filtering and drying. In June all the serum personnel from Leeds and from the South West Blood Supply Depot at Stough were transferred to the London Laboratories and from then onwards all the blood obtained from naval sources and all the serum obtained from Hagon No. 2 was handled at the new Naval Laboratories at Chelsea Tower. About this time also Harrogate Williams and Company erected a drying plant at Doncaster and offered the Navy drying space for 50 bottles per week. The additional blood required to produce the serum for Hants 50 bottles was easily obtained by increasing the output from the serum bleeding in retail establishments. This team was already stated was bleeding approximately 700 donors per week and it had been found that with efficient training and working five days a week, one team could easily bleed up to 1,000 donors a week. By August 1942 the team was filtering all the sera serum and was bleeding at a sufficient rate to collect enough serum to produce 400 bottles per week, that is to say it was bleeding at the rate of 1,400 donors per week. Approximately one of these donors were naval personnel and 1,000 civilians as Yorkshire from Hagon No. 2. It was expected that the new Plant capable of drying these 400 bottles per week, would have come into operation in September. It did not however commence to operate until December 1942. As none of the delay in getting the new Plant into operation the Naval Naval Blood Transfusion Laboratories had no stores of liquid serum left in its hands which could not be dried. It was therefore decided that one should be used to run all hospitals and work quarters. There was at this time a serious lack of refrigerative space at all naval hospitals and work quarters and it was known that serum could only be kept satisfactorily the long periods of stored serum. Negotiations were therefore opened between the Medical Officer in Charge Royal Naval Blood Transfusion Service and Messrs. J. Lyons and Company. The sale of ice cream had been prohibited throughout the country for a long period and it was known that Messrs. Lyons had a large number of ice cream freezing cabinets lying idle. It was thought

that there might be a demand for other keeping serum bottles as it appeared at a later date, in connection with storing blood. Eventually, a system was arranged between the Admiralty and Messrs. Lyons and Company for the temporary loan of these cylinders. Under this arrangement, all naval hospitals and sick quarters were provided with the additional refrigerator space required. It will be seen accordingly, that although the supply of blood products to naval hospitals and sick quarters was one of the objectives of the Royal Naval Blood Transfusion Service when it was originally planned, it was an objective with a comparatively low priority, yet it was completed before any of the more urgent requirements.

The demands for liquid plasma for hospitals and sick quarters were much less than expected and there was still an excess of stored serum when these had been met. Fortunately, it was found possible to keep this material stored in the open Government stores at Cambridge until the Fleet there were out of operation and it was agreed that in view of the delay in getting the Fleet into working order that its complete output for the first few weeks should be made available to the navy. This plan commenced to operate in the middle of December 1942 and by the end of the year the Royal Naval Blood Transfusion Service had raised to the Fleet 15,761 bottles of dried serum and 1,036 bottles of physiological saline solution. The disparity between the number of bottles of serum and the number of bottles of saline solution proved a complication, in the fact that the Admiralty held at that time approximately 20,000 bottles of saline prepared for the navy, under contract, by one of the commercial firms.

THE LOAN OF ROYAL NAVAL BLOOD TRANSFUSION DEVICES TO THE FLEET

During the years 1942-1945, 30,000 naval personnel were killed and about 600,000 injured by the Royal Naval Blood Transfusion Service. It was therefore, realized early in 1945 that the requirement for blood and group approximately 1 per cent of the entire navy, could be un-supplied, by the end of that year. Furthermore, a comparatively large number of naval medical officers had received a supplementary course of instruction in blood transfusion and it was therefore felt that consideration might now be given to developing facilities for the administration of whole blood on board ship.

Much experimental work on this problem had been carried out at the Royal Naval Blood Transfusion Laboratories. Grouping was now being provided and stored dried at a rate of about 1000 units a year that it was considered feasible to supply it to all ships. This was partly made possible by the Royal Naval Blood Transfusion Laboratories, having their own laboratory for collection of high tared sera and the resources of the laboratory, greatly helped to supply the output from the Medical Research Council Laboratory, at Cambridge. It was considered therefore that if needs of officers on board ship would enable them to be selected as donors only, those men who belonged to the QV Unreserved Donor Group and who had been accurately typed by the Royal Naval Blood Transfusion Service blood transfusion on board ship could be a reasonably safe procedure. In addition requirements had shown that since

matching could be easily and accurately performed with coagulated plasma instead of serum from a patient against the side of a finger.

Furthermore, this test could be carried out very rapidly provided that there was a centrifuge available. In conjunction with R. E. M. Chisham, Dunsford, a piece of apparatus had been designed which could, by being attached to a

FIGURE 1. ATTACHMENT FOR USE WITH THE STANDARD VITAL TYPE 1 P.A. MOTOR.

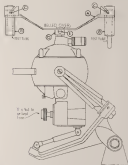


FIGURE 2. Model.

centrifuge and could thus be converted into an electrical centrifuge (see Figure 1, 1917-21). This attachment was so designed that it could be most quickly and conveniently. The Royal Naval Blood Transfusion Unit was, therefore, developed. The contents of the unit were as follows:

draw off 5 c.c. of blood from the patient collecting it in one of the calibrated tubes provided. If later he considered that this patient required whole blood, he could call upon one or a number of available of the stationary donors on board and cross match these donors cells against the isolated plasma before bleeding out of them. In the meantime the patient would be receiving serum.

This scheme was suggested to the Medical Director General and approved by him in April 1942. It was estimated that in the first instance 4,000 of these units would be required and in addition there should be available replacements for all expendable material in the units sufficient to re-equip completely, 2,000 units. The scale of supply appeared was:

5 units to every Capital Ship and 3 units Carrier and Flotilla, Cruiser

5 units to every Light Cruiser

2 units to every Destroyer

1 unit to each hospital ship carrying a Medical Officer

Ships carrying more than one unit were to store the units separately in various parts of the ship in order to reduce the danger of all the units being destroyed simultaneously by enemy action.

By the end of 1945 2,000 of these units had been completed and issued to the Fleet and the whole commitment was completed by September, 1944. Indeed, if it had not been for the requirements of overseas the commitment would have been completed in April 1944 that is one year after it had been approved by M.D.C.

During the year 1945 the Blood Transfusion Research Committee decided that all blood products being prepared for serving at the Ministry of Health Plant at Cambridge should be filtered only by those authorities who maintained a complete bacteriological laboratory capable of carrying a strict bacteriological control over their filtration plant. By arrangement between the Ministry of Health and the Medical Research Council two Filtration Plants one at Cambridge and one at the Lister Institute were set up to filter the entire supply of plasma from all the regions except that supplied by the Army. The War & Naval Transfusion Service agreed to filter all the serum available (see Diagram 2). This organization worked extremely well and achieved successfully the shortage of blood products that was occurring in the regions. It also facilitated the setting up of a complete blood bank at the R.N.B.T.S. Robertson Institute, Fleet, because the plasma recovered from the spent blood in the bank that had not been issued could be forwarded to the Lister Institute where it was filtered and eventually dried at Cambridge. This plasma when dried was issued to the regions.

West of the region had a preference for dried plasma rather than serum. Some of the London region like the navy hospital were an exception and preferred to use serum. In this arrangement therefore the serum from these regions was filtered at the R.N.B.T.S. Laboratories and during the year 1944 and 1945 10,000 bottles of serum were filtered for the regions by the navy. As serum alone these requirements was obtained by the navy to compensate for the plasma supplied from its Blood Bank to the regions.

its complement and medical officers were considered to demand more of them, had any reason to think they would require it. There were ample supplies of all forms of transfusion equipment available and it was open to all ships and establishments to demand anything wanted, including whole blood, for a blood bank at (H). Universal Donor Blood had been established at the R N D T's Laboratory in December 1940.

A complete list of the products issued by the Royal Naval Blood Transfusion Service is shown below.

PRODUCTS AVAILABLE FOR GENERAL ISSUE* A T G 2046/39

- (1) *Donor Plasma Serum*
Issued in B.R.C. bottles containing the dried material from 400 c.c.
- (2) *Physiological Saline Solution*
Issued in B.R.C. bottles containing one pint.
- (3) *Glucose Saline Solution*
This consisted of a solution of 5 per cent. glucose in physiological saline and was issued in B.R.C. bottles containing one pint.
- (4) *5 per cent. Glucose in water*
Issued in B.R.C. bottles containing one pint.
- (5) *10 per cent. Glucose in Water Solution*
Issued in B.R.C. bottles containing one pint.
- (6) *Glucose Electrolyte Solution*
This consisted of 5 per cent. glucose in 2½ strength citrate solution. It was issued in 100 c.c. ampoules contained in B.R.C. Blood Collecting Pouches fitted with special bleeding caps, so as to allow blood to be drawn from a donor into the capillary reservoir without opening the bottle. Usually issued in this cap with a donor bleeding set.
- (7) *Donor Bleeding Set*
Fitted with a cannulated needle ready for use in sealed bottles containing an addition of 100 units.
- (8) *Transfusion Set*
Fitted with a cannulated and ready for use in sealed bottles.
- (9) *Donor Clamping Device* (Figs 4 & 5) (Fig. 6)
1 used in capillary, 2 in venous, pins from 6.35 c.c. to 10.5 c.c.

FOR ISSUE TO SERVICE ALLIANT ONLY

- (10) *R.N. Blood Transfusion Units (ampoules)*
1 set of 5 ampoules each containing 50 units or 100 units.

FOR ISSUE TO HOME FORTH (ALL) AND 5400 QUARTERS AND AMPHIBIOUS OPERATIONS ONLY

- (11) *Whole Blood*
O/F Universal Donor Group Blood in B.R.C. bottles each containing 500 c.c. of Universal Blood.
These bottles, labelled with the date of collection, issued in sealed boxes in which containing two bottles.
Temperature and temperature of these bottles is maintained at 2°-8° C. by dry ice, in an insulated container.
- (12) *5 per cent. Albumin Serum*
Issued in B.R.C. bottles each containing 500 c.c.
- (13) *Saline Plasma Serum*
Issued in B.R.C. bottles containing 500 c.c.

*The issue of these products ceased when dried plasma became available in sufficient quantities that the issue of it had not to be restricted to Service Units.

TABLE 1.—THE ROYAL NAVAL MEDICAL AMBULANCE OPERATIONS UNIT.
 (a) *Establishment* (b) *Staff*
 (c) *Establishment* (d) *Staff* (e) *Establishment* (f) *Staff* (g) *Establishment* (h) *Staff*

DESCRIPTION **OPERATIONS**

By the end of 1942 although the Royal Naval Medical Ambulance Service can be said to have reached maturity, it was not fully potent. The service had been planned so that should any special emergency arise a very rapid and very considerable expansion could take place. During the years 1942 and 1943 a large number of personnel had been trained, including such officers, nursing staff and laboratory technicians. More spare beds had been procured at the Royal Veterinary College and the new quarters of the V A D quarters covered a floor area of 4000 square feet. The V A D quarters too had been expanded to accommodate 20 V A D's. Therefore, when an increased output of blood and blood products was called for to cover Operations overseas in February 1944 it was found possible within a month to expand the service by about 50 per cent. The table below shows the normal staff of the R N M A at the end of 1943 and its distribution together with the staff necessary for Operations overseas.

	Normal staff	Staff for operations overseas
Medical officers (including M.O.C.)	2	4
Wreck officer	1	1
C & R N.E.	1	1
General Practitioner	1	1
V A D Communicator	1	1
V A D's	22	75
V A D cook	1	1
Sick berth staff	6	12
General medical drivers	2	5
Civil industrial staff		
Male laboratory	4	7
Female cleaners and berth workers	7	10
Civil housekeepers	1	1
	50	126
Total	52	126

DESCRIPTION
London Laboratories

	Normal staff	Staff for operations overseas
Surgeon Captain or M.O.C.	1	1
General Practitioner	1	1
Wreck officer	1	1
V A D Communicator	1	1
Warfare & preparation	1	1
V A D's	24	69
V A D cook	1	1
Sick berth staff	6	12
General medical drivers	1	5
Civil industrial staff		
Male laboratory	4	7
Female cleaners and berth workers	7	10
Civil housekeepers	1	1

	Lancaster Laboratory	
	Normal staff	Staff for operations overseas
N. A. 104	5	5
	Cambridge Laboratory	
	Normal staff	Staff for operations overseas
N. A. 104	5	5
	Leeds Laboratory	
	Normal staff	Staff for operations overseas
with birth trays (2)	1	1
Medical Stores Planning Room	11	12
Staff in Laboratories	20	2
N. A. 10, 5, 5, 5	1	1
N. A. 104	5	25
Planning Tables in Rooms No. 1		
Inventory Laboratory	1	2
N. A. 104	5	5
High speed X-ray Laboratory (London, 1941)		
Storage Laboratory	10	1
N. A. 10	5	5

*1 night visiting

Operations overseas was the largest amphibious operation planned during the war. When it was planned it was envisaged that the Navy would be responsible for the moving and carrying of all wounded from the *Naval Mobile Beaches* in England for at least the first twelve hours of the fighting or until

Landing Grounds could be prepared for aircraft and the Army could set up for a and hospitals for the treatment of the more urgent cases. When this stage had been reached it was expected that a great many of the wounded would be transported by air. Until then, however, the transport of wounded was to be carried out as speedily as possible. First Landing Ship Tanks and it would be a moral commitment to care for them until they could safely landed in England. It was therefore necessary for these L.S.T.s to be supplied with ample medical stores equipment and blood products. 71 L.S.T.s were to be equipped to carry wounded and each would be capable of carrying up to 200 wounded men. It was decided in January 1941 that each L.S.T. should carry on each trip 100 bottles of dried plasma, 50 bottles of physiological saline solution and 24 bottles of glucose solution and that there should be available at least one administration set for every two and a half bottles of transfusion material. It was considered that each L.S.T. would not make more than three trips carrying wounded. The commission therefore estimated a demand for approximately 20,000 bottles of dried plasma, 10,000 bottles of saline solution, 1,000 bottles of glucose solution, and 10,000 administration sets. Furthermore, it was required that these supplies be delivered to the Harbours not later than 1941 May. There was a very considerable demand and it could not have been made at a more unfavourable time for it was made when stocks held by the R.N.S.M.C. were extremely low owing to the fact that practically 1939 Royal Naval

Blood Transfers in 1940 had just been pulled and distributed (10000 litres) and this alone had satisfied the need of 20000 bottles of blood-transfusion. In addition there were very considerable demands outstanding, 10000. Navy were endeavouring at this time to build up a stock of these materials in Australia and the East, before the situation in the Pacific. A meeting was therefore called at the Ministry of Health and this was attended by representatives from the Ministry of Health, the Medical Director General, and the National Research Council, and the Medical Officer in Charge, Royal Naval Blood Transfusion Service. It was decided at this meeting —

- (a) that half the supply required for 1941 (with a reserve of 100000 bottles) in the Cambridge Division should be made available to the Navy in two instalments.
- (b) that all the regions should make a contribution of blood serum in plasma (100000 bottles).
- (c) that the navy should supply the additional serum required for the Division, 150000 bottles but that it should be offered to them for bleeding donors as well. (100000 bottles).
- (d) that as a temporary measure the navy should supply plasma, 100000 bottles in plasma as far as all the demands of blood serum available in the division.
- (e) that supplies of blood serum and its export from Canada and other sources should be made available to the navy.

As a direct result of this meeting, the navy raised 10000 bottles of blood serum from the regions and eventually 20000 bottles of Canadian plasma. The whole of the latter quantity was not received prior to D Day. It was also arranged that if any medical officer was allocated to the South West London Area, devoted by the Admiralty, he would arrange in the morning, well before he started work, to provide an extra bleeding room to draw blood from civilian donors for transfusion. This extra transfusion would have to be supplied and transported from the Royal Naval Blood Transfusion Service Laboratories at London. In addition to this, the Medical Officer in Charge, R.N.B.T.S. arranged that one naval team should be placed permanently in R.M.S. Hospital, Littlehampton (see paragraph) that it would be at the rate of approximately 1000 donors per week and that another naval mobile team should be formed to visit other naval establishments. It was estimated that this team could blood approximately 1000 donors per week. It was also decided that a third naval team should be raised and held in readiness as a reserve.

This programme, it was estimated, would collect approximately 1,000,000 bottles of blood per week. This estimate was based on the following estimated figures from the various regions.

Plasma (Blood plasma) available

See 1. naval team	
Blood at R.N.S. Royal Naval	1000
See 2. naval mobile team	800
See 3. Reserve	
Blood at South West London Region	800
Region No. 2	1000
	—
Total	3,600

This amount of blood would, it was calculated, be just sufficient to provide for the preparation of 1,000 bottles of dried serum per week.

The requirements for staff and equipment to put this programme into operation were placed before R.D.G. and duly approved and obtained. This programme was brought into operation during the first week in February.

DISTRIBUTION AND PACKING OF L.S.T. UNITS

It might be of some interest, and of some value for future reference if it was related how long this demand was handled and distributed. The dried serum and album was stored in Lancing Maps units specially designed for the operation by the First Naval Blood Transfusion Service. Each unit contained 16 bottles of serum, 16 bottles of album and 8 administration sets. The size and weight of the unit was limited so as to allow it to be handled easily by two men. The glucose saline was used in units containing 12 bottles and 6 administration sets. In all 1,000 L.S. units and 500 glucose saline units were packed and loaded.

Each L.S.T. was supplied, in the first instance with 4 L.S.T. units and 2 glucose saline units, having 312 L.S. units and 164 glucose saline units, which were held in reserve at the stations at Gosport and Southampton. All these materials were packed at the London Laboratories, and transported from there to the various "camps" by road. The whole demand was completed and sent by 14th May, that is, ten days earlier than the target date.

THE SCARCITY OF WHOLE BLOOD FOR OPERATION "DEVILDOGS"

In March, 1915, the Royal Naval Blood Transfusion Service was informed that each L.S.T. should carry in addition to blood products, 15 pints of fresh OIV blood per trip. It was indicated that at the commencement of the operation, as all 1,500 pints would be required, and following 10 days about 1,000 pints would be needed each week. Such a demand presented a number of problems. It was possible by this time to improve much in technique to keep blood stored in good condition for about one month, but it was not known how long it could be kept refrigerated when subjected to the vibration of a ship. Experiments carried out at the Royal Naval Blood Transfusion Service 1 demonstrated clearly that if special precautions were taken it could probably be maintained in good condition in these circumstances for about fourteen days. It was therefore decided that if blood was to be supplied to these ships it should not be more than three days old when received on board after it had been in transit for more than ten days. To obtain 1,500 pints of OIV blood per week would entail bleeding approximately from an unengaged population, 2,000 pints per week, and it was considered by technical means connected with the difficulties of transport that Hagon No. 3 should not be relied upon to produce any of this blood. It was however completely feasible the limits of possibility for the London Laboratories to collect and have ready at any moment 1,500 pints of OIV blood of not more than three days old in its bank, for this would have meant bleeding from an unengaged population at a rate of about 1,400 pints per day.

It must be remembered that the actual date of D Day was unknown and therefore the day on which the R.N.B.P.N. would receive the demand for the 1,000 pints of blood could not be disclosed until the very last moment.

A meeting was therefore called by the Medical Officer in Charge Royal Naval Blood Transfusion Service which was attended by the Directors of the various regions. It was decided at this meeting that each London Region would from the middle of May onwards increase their O.N. blood banks by about 50 per cent. and that the Royal Naval Blood Transfusion Service would keep a blood bank of 500 pints of O.N. blood of not more than three days old. When the call came it would therefore be possible to make up the deficiency of 400 pints by collecting contributions from each of the London regions. It was further agreed that if following D Day, 2,000 pints per week were found to be insufficient all regions would endeavour to increase bleeding programmes in their areas after D Day to meet the R.N.B.P.N. in making up the deficiency. It was therefore decided that the third naval bleeding team which was held in reserve should be brought into operation on 10th June and a programme for it to do so was accordingly arranged.

When planning the bleeding programme it was considered that although the circumstances for the navy to transport the Army wounded would probably last for not more than two days, it would be advisable to ensure that blood was available on the scale envisaged for at least three weeks. The other commitments of operations had already resulted it was considered, to put into operation those naval bleeding teams to collect approximately by 2,000 pints of blood per week. Furthermore the programme arranged for these three teams covered a period extending up to the end of August. When planning the programme for the fourth team it was therefore arranged for it to cover the period of 10th June to 10th August as here it was hoped that D Day would fall within this period and not later than 10th August. D Day as a matter of course fell on 6th June and although a year was since this was extremely fortunate for it fell on the very day it was arranged that the fourth team went into operation.

The details of the programme planned and the total amount of blood of O.N. blood which it was hoped would be collected are shown below.

	Amount per week O.N. blood required	
Team No. 1 operating in H.M.S. <i>Amble</i>		
1st line	1,000 pints	400 pints
Team No. 2 operating in London Civilian and 2nd line Fleet Area	500 pints	200 pints
Team No. 3 operating in Port Country and Plymouth Areas	500 pints	200 pints
Team No. 4 operating in 1st South Port London Region	400 pints	200 pints
Total	2,400 pints	1,000 pints

It should be noted that it was hoped to bleed 2,400 units of plasma per week. Such a proportion in 1942 would have not with extensive operations

from all quarters. In this manner the Commanding Officers of naval establishments had been used to the taste of the bleeding team. For those teams had not only had to pump out every establishment at least twice a year for periods of one to three weeks at a time since 1911. The Commanding Officers of these establishments had accordingly by this time become 'Blood Transfusion Maniacs' themselves and wanted the bleeding teams to every way in their power.

The Medical Officer in Charge, Royal Naval Blood Transfusion Service found therefore little difficulty in planning, arranging and putting the programme of bleeding into operation.

The collection and distribution of the blood presented the greatest problem, for the Royal Naval Blood Transfusion Service at this time possessed no refrigerated vans. All blood collected up to this time was transported in specially designed insulated boxes which were cooled by CO₂ snow (dry ice). There was not enough of these boxes available to distribute all the blood required for the operation of this type of fleet war employed. The Medical Officer in Charge, Royal Naval Blood Transfusion Service therefore again appealed to Western J. Lucas & Co. to place at his disposal of the Royal Naval Blood Transfusion Service their complete fleet of hot storage vans which they employed prior to the war for transporting pavements. These vans were not, however, in the strict sense of the word refrigerated vans. They were each fitted with two insulated bunkers running along each side which were kept cool by means of blocks of dry ice which were placed down in each bunker. Such an arrangement although indirectly suitable for transporting ice cream, could not be used for transporting whole blood as there was no means of controlling the temperature and, in any case, the van for too low, being approximately 10° below zero Centigrade.

Experiments were therefore made with one of these vans of the R.N.B.T.S. Laboratory and from these experiments the following satisfactory method of keeping blood at the correct temperature as these vans was devised.

The Royal Naval Blood Transfusion Service employed for packing purposes, a cardboard carton which held six blood bottles. It was found that if these were packed with these bottles of blood and these bottles of frozen water and stacked three deep in a bunker with a fourth layer of cartons on the top containing only bottles of frozen water, the temperature of the three layers containing blood could be maintained indefinitely, even in hot weather at 7 to 47° F. This was ideal for blood. Furthermore it was found by trial that the bottles of ice in the lower containing the blood needed replacing only about once in seven weeks since provided that those of the top layer were replaced daily. This method of storing allowed 120 bottles of blood to be stored in one bunker. The other bunker was used to store bottles of water with dry ice at a temperature of approximately 10° below freezing point of water. Each van therefore could carry 120 bottles of blood and also hold and freeze any fresh bottles of ice it required. It was only necessary to keep it supplied with fresh supplies of dry ice daily. Such 'back back' staff and V & Ds were therefore entrusted on the voyage.

ment and maintenance of a blood bank, many one of these was used. S.N.S. Admiralty was informed that these units could prove suitable and be arranged for two of them to be supplied on permanent basis to the Royal Naval Blood Transfusion Service and three additional units on temporary loan to cover the four months period from August onwards. These units were however, bought and then. A great deal of the R.N.B.T.S. transport was driven by V.A.D.s but these cars were far too unsuitable for a transit to India. The G.O.C. Royal Victoria London was approached and he agreed to donate five Royal Marine drivers to the Royal Naval Blood Transfusion Service temporarily to cover the period of emergency and the two Royal Marine drivers to be provided permanently or for as long as they were required. The Marine drivers on joining were given a course of instruction in the management of the blood bank. It is worthy of record that they were found to be most capable and during the emergency they carried out these duties with great skill and efficiency. Furthermore they were extremely valuable greatly at times power. The Royal Naval Blood Transfusion Service had seven laboratories engaged in this period but these centres were under too small a system was placed on call for the service. They were therefore not capable of any prolonged great planned effort. It will be noticed that there was a great deal of loss of and badly ordered to be handled at this time at the London Laboratories and for that the services of these Marines were available.

On 4th May, the Medical Officer in Charge Royal Naval Blood Transfusion Service was informed that the blood was required to be placed on board the L.S.T. in 1940 Monday, 1st June. A call was sent out to the various regions and 400 units of fresh O.B. blood was collected from the four London Regions and in addition the Welsh Region delivered with their own transport 370 units at 2.00 on 4th May.

During the night of 4th May 1st June these units were packed with 1,000 units of blood and all these units were on their way to the "main" by 06.00 on 1st June. All was satisfactorily delivered by 10.00 and distributed to the L.S.T. by 16.00 on 1st June.

To the replacement of supplies to the L.S.T. it was arranged that two units each holding 500 pints of blood and a reserve of transfusion apparatus should be sent on permanent loan to Gosport Harbour at Southampton from 2nd June onwards. Each of these units was staffed by a Royal Marine driver and a sick berth rating. It was left to these two men to arrange the 8 unit rotation. These units were continuously supplied from London with fresh supplies of blood and dry ice. There were no direct telephone communications with the London Laboratories and kept the Laboratories staff informed as to what stocks of blood and transfusion apparatus they held. A very fulling all requirements required set off daily from R.N.B.T.S. Laboratories and sorted the units at Gosport and Southampton after replenishing their stocks and collecting the supplies and aged blood returned to London. The staff operating the units at the "main" were released every four days.

This organization worked extremely well and as both required. Any medical officer on an L.S.T. arriving at Gosport or Southampton was able to

there was a gap made within a few moments of arrival and then what first-aid supplies he required.

The number of wounded suffered during the assault period was far less than expected and the bleeding programme arranged by the R.N.B.T.S. was ample to cover all demands. It was therefore unnecessary to call on the system for any further assistance. It was indeed fortunate that this was so, for the aerial bombardment of London and flying bombs had given the London regions as much as they could cope with and they had themselves to seek assistance from some of the outside regions. It was however found necessary to keep the organisation functioning for the full six weeks since owing to bad weather conditions the movement of wounded by the R.A.F. was delayed. During the first three weeks however although the casualties were fewer than expected the demands for blood were apparent early that indicated when the Operation was planned. This was due to a number of unforeseen contingencies. The Army had agreed to keep their own Hospital Corps supplied with fresh blood from blood sent on D-Day plus two: the Royal Naval Blood Transfusion Service received a request from the Army (Blood Supply Depot, Bristol) that three carriers might be flown down their blood supplies from the Royal Naval Blood Transfusion unit at Southampton and this was arranged forthwith. On the same day, the Naval Port Officer at the Port of London on his own initiative informed the Medical Officer in Charge at the Royal Naval Blood Transfusion Headquarters that a U.S. Navy L.S.T. had arrived at the Port of London with casualties and that it was short of blood, blood products and transfusion apparatus. No previous arrangements had been made to supply one of the U.S. Navy L.S.T.s with blood transfusion material.

The Medical Officer in Charge of the R.N.B.T.S. with a representative on board this ship to require as to what was required and at the same time communicated with the United States Naval Attaché in London and informed him that any supplies of this kind could be obtained from the R.N.B.T.S. London. From these sources all United States Navy L.S.T.s arriving in London drew off their fresh supplies of blood and blood products from the R.N.B.T.S. Headquarters and it can be stated that no United States Navy L.S.T. left London short of these supplies. In addition to these unexpected demands for blood, some additional demands were received from a number of naval hospitals where new arrangements were made to cope with the requirements.

During the whole operation the Royal Naval Blood Transfusion Service supplied 3,142 pints of G.V. blood in per cent. of which was used during the first three weeks. During the whole six weeks period the four teams lost 11,000 donors. 11,000 of whom were naval personnel and 100,000 naval catch recruits and there is no doubt that this number could have been exceeded. After 27th June however the demands for blood were so reduced that the bleeding programme had to be adjusted and reduced to prevent the wastage of blood. The total issues made by the Royal Naval Blood Transfusion Service for operations operations were as follows:

initial stock	100,000	plus
plus losses	10,000	2,000
plus losses	10,000	1,000
plus losses	10,000	1,000
plus losses	10,000	1,000
plus losses	10,000	1,000
plus losses	10,000	1,000

When the operation was completed 17,000 bottles of dried serum and 1,000 bottles of plasma serum were returned to the Royal Naval Blood Transfusion Headquarters. It will be seen, therefore, only 1,000 bottles of dried serum and 1,000 bottles of plasma serum were actually used during the operation. During this period Regent No. 2 had continued to function in the form of a main pump. There was, therefore, not a great amount of serum in the Laboratories as being filtering and the stocks of dried serum was held which included 10,000 bottles of Canadian material were more than sufficient to cover the War Naval Commission.

The staff of the Royal Naval Blood Transfusion Laboratories had not had leave since September 1943 and they had been overworked and had been subjected to continued aerial bombardment since October 1943. It was, therefore, decided to reduce all bleeding and work at the Laboratories to a minimum and give leave.

General Revision From Following November 1944

After operations had been completed the whole situation had to be reviewed. Stocks of dried serum and liquid serum meeting bleeding held by the R.N.B.T. taken together with the stocks held by the Fleet and various medical depots were such that it was calculated by the end of the year there would be sufficient dried serum available to keep the crew supplied for at least two years. The stocks with regard to apparatus were also satisfactory. There was, however, still a considerable shortage of crystallized solutions and many demands for these materials were still outstanding. It was, therefore, decided to reduce bleeding at the venous end, in fact, to the extent only of maintaining a blood bank of approximately 100 pints of O.D. blood. The apparatus with Regent No. 2 was brought to a stand and those of the fixed bleeding towers were dismantled and one from being kept in operation. Actually, at this time it would have been impossible to supply more than one pint, probably because during this period a number of fixed transfusion machines were closed down. By March 1945 all requirements for crystallized had been met and following 1.1.45 the actual requirements for blood transfusion products and apparatus were more than complete. Following 1.1.45 it was decided that as the Royal Veterinary College were anxious to carry on their own, building at London, to close down and disband the service.

Summary of work with Apparatus at the R.N.B.T. During the War

It would be quite too long a story to relate in detail all the work done and trials the Royal Naval Blood Transfusion Service passed through during the war but some idea of what it accomplished can be obtained by studying Tables I and II.

Table 1 shows the numbers of donors bled by or on behalf of the Royal Naval Blood Transfusion Service and Table II the total amounts of material supplied by this Service to the navy for each year. It will be seen from Table 1 that the Royal Naval Blood Transfusion Service obtained a great deal of material from the regions but then afforded the regions much in return. They supplied the driving plant at Cambridge which dried the blood products by the whole country with the exception of those collected in the regions supplied by the Army, were almost entirely operated by naval & R.N.S. staffs under the administration of the Royal Naval Blood Transfusion Service. Furthermore the naval laboratories bled and serum collected by the regions. The Victoria plant at the Lister Institute was also afforded some naval assistance in the form of two naval & R.N.S. from the Royal Naval Blood Transfusion Service. Region No. 1 whose contribution to the Royal Navy of serum was for the largest of any region, led the services of one full-time Lantman and sometimes two for most of the war and also that of a half-time (Fig. 1) to assist in Laboratory work.

It will be seen from Table 1 that during the war 600 475 naval personnel were grouped and bled by the Royal Naval Blood Transfusion Service. However, not all these were bled during the years 1941-44 inclusive. Therefore in so far as the savings of men had been allowed for, they must have been more than 18 per cent of the entire naval personnel actually grouped at the end of 1944.

The falling off of the figures for the numbers bled for the year 1940 is spite of the large donations programme can be explained by the fact that after August 1940 only a minimum of bleeding was carried out on that only sufficient to maintain a small blood bank of approximately 500 pints. The figures for 1941 therefore really only cover an eight months' bleeding programme as compared with a full year's programme in 1940.

It is worthy of note that 113 098 volumes from Yorkshire contributed their blood to the navy during this war.

Table II requires little elaboration but it shows that the Royal Naval Blood Transfusion Service issued an average blood 4 138 bottles. From the cost of the blood collected it prepared 10 000 bottles of dried serum. It can therefore be calculated that it took approximately 2.2 donors to obtain enough blood for each bottle of dried serum produced. This again is very high for the technique of bleeding, filtering and processing, but it shows that the theoretical loss from the bleeding to drying is only 13 per cent. This calculation is made on the assumption that every donor contributed a full pint of blood and that sufficient volume could be separated from this lot neither of which assumptions are true in practice for at least 8 per cent of donors cannot be separated from the blood clot and at least 2 per cent of donors fail to supply a full pint of blood. It might be of value here to be told that the incidence of bleeding amongst all naval donors including Women was approximately 1.5 per cent.

It will be observed that in all 1 071 779 bottles of dried serum was issued but only 161 060 bottles of the material was prepared by the Royal Naval Blood Transfusion Service. The balance of these figures is balance as explained

[illegible]

*All new, never installed, 100% pure, unused (1 x 1/2 x 1/2") 1/2" thickening up more than any thin
1/2" (1/2" thick) to 1/2" (1/2" thick) up, and other conditions. Below are some of

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Keywords: child sexual abuse; disclosure; social support; self-esteem

the 1990s, the number of people who have been convicted of sexual offenses has increased significantly. This increase has been attributed to a number of factors, including a more active role for law enforcement, a more active role for the courts, and a more active role for the public. The increase in the number of people who have been convicted of sexual offenses has also led to a more active role for the public in the prevention of sexual offenses. The public has been encouraged to report sexual offenses to law enforcement, and to support the courts in their efforts to prosecute sexual offenses. The public has also been encouraged to support the courts in their efforts to prevent sexual offenses. The public has been encouraged to support the courts in their efforts to prevent sexual offenses. The public has been encouraged to support the courts in their efforts to prevent sexual offenses.

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1. Which of the following is **not** a factor in how the brain is organized for the left hemisphere?
 a. The left hemisphere is responsible for the motor cortex.
 b. The left hemisphere is responsible for the language cortex.
 c. The left hemisphere is responsible for the visual cortex.
 d. The left hemisphere is responsible for the auditory cortex.

11. *Journal of the American Statistical Association*, 1997, 92, 1013-1027.

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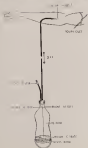


FIGURE 1.



FIGURE 10

The instrument shown in Figure 10 is a catheter, which is used to insert a catheter into the bladder of a patient.

The instrument shown in Figure 11 is a catheter, which is used to insert a catheter into the bladder of a patient.

The instrument shown in Figure 12 is a catheter, which is used to insert a catheter into the bladder of a patient.

FIGURE 11

The instrument shown in Figure 11 is a catheter, which is used to insert a catheter into the bladder of a patient.

THE SURGICAL THORACIC UNIT AT R.N. HOSPITAL, CHATHAM

By

Surgeon Commander W. T. FRASER, F.R.C.S., R.N.

In an article of this kind it is necessary, at the outset, to define the ground to be covered and to explain the consequent limitations of the review. In the first place it is not intended to cover the work of a comprehensive Chest Unit, though, as is well known, the similarity between Thoracic and Surgical is so intimate, owing to the treatment of diseases of the chest that it is still not possible to separate them into watertight compartments. In no other field is the Surgeon so dependent upon the Physician for the pre-operative estimation of the possible benefit of surgery, as well as for the highly post-operative care of many cases. One attempt therefore to make this a history of a complete Chest Unit would necessitate inclusion of the medical work carried out in the tuberculosis and medical sections of all the naval hospitals which find the thoracic unit at Chatham a purpose which is not here intended. It must be understood, therefore, that the intention is to emphasize the surgical work.

Total the discharges of this unit at Chatham, with few exceptions, all naval and associated patients about to undergo major operations were transferred to the R.N. Southern Hospital at Dartford. There under the charge of Surgeon Captain R. Henderson, F.R.C.S., R.N.A.R., they were accommodated in a specially staffed naval wing.

The hospital at the time began to take naval cases soon after the dislocation of war as part of the general dispersal of patients. As the end of 1947 cases of tuberculosis were no longer being received, hospital management agreed that two of the 100 beds which were available for the Royal Navy at Dartford should be put at the disposal of R.N.H. for the accommodation of interned cases. A single flat room for carrying out minor surgery was found. Two consultation clinics were soon appointed, and this wing was opened in February, 1948. During this arrangement at Dartford 78 cases of tuberculosis were referred and the following 81 operations were performed:

Thoracotomy	14
Thoracotomy, 1st stage	15
Thoracotomy, 2nd stage	14
Thoracotomy, 3rd stage	6
Refractive surgery	26
Pharyngeal cancer	1
Pharyngotomy	10
Esophagectomy (superior)	1
Laryngectomy and oesophageal cancer	1
Tracheal resection (partial)	1
Diaphragm resection	1

Total 81

Due to the efforts of the present Medical Director General—who was Medical Officer in Charge at that time—a beginning was made during the summer of 1945 to assemble the necessary equipment for opening the Royal Naval First Surgical Theatre Unit at R.N. Hospital, Chatham. Mr N. E. Barrett M.Ch. F.R.C.S. and Mr D. V. Table F.R.C.S. who had been undertaking the operations surgeons at Dartford were appointed and agreed to arrange to consult these surgeons at Chatham when the unit was opened there. It was a real stroke, now and again, regarding hospital surgery there is naturally a great demand for new instruments of very specialized design and the instrument makers are quite unable to supply many of these demands without a considerable delay. Thus in the case of certain instruments some waited up to two years. The difficulty was solved by the loan of these instruments from Dartford and these were returned at the end of each operative season.

Owing to illness Mr Table was unable to attend at Chatham when the unit opened and Mr W. P. Cleland M.R.C.P. F.R.C.S. was appointed to his stead as there will be more than can be undertaken by one surgeon attending a hospital.

On 24th December 1945 the Royal Naval Surgical Theatre Unit opened at R.N. Hospital, Chatham with the theatre from Dartford of an class which previously had been opened upon there. In readiness for this one of the top wards had been redecorated throughout and specially equipped for their reception. The general equipment of beds, nursing furniture, lavatories, and drains had been ordered by him so that the reconstruction could accurately be called exceptionally good.

Professor's work had included special training of Senior Staff, Staff Ward and Physiotherapist. An arrangement with the King Edward VII Sanatorium, St. Malford, two Royal Victoria at a time with a consultation for three months and treated in theatre surgery and its post-operative nursing. This arrangement has continued until a reserve of fully trained doctors is now available.

The two Operating Theatre Units, were given a week of training at the Brompton Hospital for Diseases of the Chest. The fact that after this very short time they were able to cope with the special demands made by this type of surgery reflects very great credit upon them. Subsequently, a portion of the training made available at St. Malford was given in operating theatre work, in order to supply relief operating theatre cases.

At this time none of the medical officers at R.N. Hospital, Chatham had any experience of theatre surgery, in general and even especially in the technical requirements of the conducting theatre surgeons. To cover the arrangements were made whereby the surgical specialist went to London to watch as many theatre surgeons as possible.

Training in physiotherapy was arranged at the Brompton Hospital, to which a Staff Nurse Chest Phys. Officer who was a qualified nurse, was posted for several months. On his return to Chatham he was responsible for the training of others. This section of course plays a most important part in the surgical treatment of chest cases. For instance in thoracoplasty cases

physiotherapy began three weeks before operation and continued for two to three months afterwards. For the first three or four days the patient is treated three daily, slowly decreasing in frequency, though at the end of two months treatment is still carried out two to three times per week. Without skilled physiotherapy the postural results of thoracoplasty can be definitely even though the progress of the tuberculous disease may have been arrested.

Training of the Sick-Bed Staff was rather less thorough and consisted of visits to Dartford and to the Brompton Hospital to watch operations in person. The responsibilities of the nurses was thus proportionately increased so that had to supervise all activities in the Operating Theatre until they had fully trained the staff.

It will readily be realised that anaesthesia plays a most important and specialised part in this type of work, and steps were taken to obtain training of the hospital's anaesthetist in the special techniques required.

In view of the length of time which some of these patients had to remain in hospital it is considered equally desirable that their surroundings should be as pleasant as possible. Adequate vented heating and ventilation, light, colour schemes, high ceilings, frequent changes of good reproduction of paintings acceptable to the eye. Music and even television, radio and a large television screen, all help to mitigate the tedium of the prolonged hospitalisation of the tuberculous patient.

Non-tuberculous thoracic surgical cases are admitted to the general surgical wards. This is staffed at once indicates the need for a high standard of nursing in these wards since the post-operative treatments are like those against, and the patients are liable to deal immediately with serious complications far greater than after any other type of surgery.

A short summary of the routine adopted at Dartford is as follows.

Tuberculous cases in admission, whether surgery is contemplated or not, are all admitted to the tuberculous wards of the institution. Here the question of surgery is first considered by Dr W. D. Davies, F.R.C.P., the consultant in diseases of the chest. Only in his advice is a patient submitted to the thoracic surgery for consideration.

This is a very interesting process of discussion for, as the well-known words "many are called but few are chosen". The final surgery, if infection has not become important, then the proper selection of the cases that will benefit from it.

Non-tuberculous chest cases—hyperaemia, bronchiectasis, large benign carcinomas etc. are admitted at the first instance to the general surgical wards under the care of the medical specialist. All cases, however, by one or other of the consulting surgeons and accepted for surgery, before transfer to the surgical wards. Since the percentage of operable cases is high in a carcinoma of the bronchus, the second filling the largest number of operable beds with cases which may later be found unsuitable for surgery.

As further instruments become available it is hoped that eventually every type of thoracic operation will be carried out in this unit. At present operations range upon the heart, as great vessels, e.g. the Taylor's anastomosis (the iliac

help") patient ductus arteriosus, coarctation of the aorta, pulmonary stenosis, etc., have been performed at Chatham. If no more of us hope the scope of nasal surgery is eventually widened to include all lesions it is not unlikely that these conditions will come under our care. It is perhaps worthy of note that a fully established case of coarctation of the aorta as a cause of hypertension, was referred to the unit as a result of a routine pulmonary examination. This case was transferred to the thoracic unit at St. Thomas's Hospital for operation there by Mr. N. R. Barrett, one of the consulting thoracic surgeons. On the other hand an advanced case of Pott's disease (considered paravertebral) underwent successful decortication of the focus at Chatham.

As stated at the beginning of this article, co-operation with the Medical and Roentgen sections has to be very close to make possible the efficient functioning of the surgical unit, so that the figures of actual operations performed cannot yet be offered as finalities; the hundreds of other treatments and diagnostic measures which are made available at these sections before surgery can be undertaken. In the operative section alone the artificial pneumothorax in diagnosis and relief and pneumothoraxomy, subcutaneous and rectal, during the period under review, number 1115.

As regards the actual surgery, there is one operative section weekly on Friday afternoon. This usually lasts from 14.00 to 18.00 or later. One or other of the consultants attends in turn, and in addition he sees all cases submitted for surgical consultation by Dr. Brooker or the surgical specialist. Though this suggests a delay before operation is undertaken, in actual fact the prolonged pre-operative physiotherapy necessary makes this interval a necessity.

The immediate responsibility for looking after surgical chest cases is carried by a medical officer specially appointed for this purpose. He is also house officer in the intervention wards, so that he is fully conversant with the post-operative histories of the intervening cases.

Unless one is fully familiar with the complications of thoracic surgery it is difficult to realize the alarming seriousness of these cases and the intensive pre-operative and post-operative treatment that is necessary. Haemorrhage when it occurs can be satisfactory, and this in more operations gives many drops may be necessary all under positive pressure. Immediate thoracotomy may have to be undertaken and there is no question of being able to wait for help from a visiting surgeon. The same obvious and frequent complications of bronchopneumothorax, pleural tears, collapse in a hole of the rib containing lung, etc., need hardly be stressed, though treatment is more the less urgent. No thoracic surgeon would undertake to operate in any institution where he did not feel confident that such facilities were available in his absence, and it was with these considerations in view that a medical officer was appointed to give special attention to the unit in cases when with the surgical specialist he could not himself devote adequate time to all the details.

With growing experience many complex chest operations are being passed on by the consultants, and it is perhaps not unreasonable to hope for the time when most if not all of the thoracic surgery is undertaken by a nasal surgeon.

would otherwise have been a lengthy delay. The patients, patients' and help in every direction supplied for both consulting surgeons has been made up promptly by all concerned with this hospital.

I am indebted to Surgeon Rear Admiral R. A. J. Hasbrouck, R.N.P., for permission to publish this report.

SOME REMINISCENCES OF A HOSPITAL SHIP

BY

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Bar had already had a chequered career when we commissioned her as a coast hospital ship in May 1945. Once she belonged to a French Company and had been taken in prize at Port Said on the fall of the French empire in 1941. After that she was used as a tugboat and later converted to a hospital ship and used by the Whites. Harcourt had it that through all this period her engines were unserviceable and got a somewhat terrible. At all in order it is decided to turn her over to the Navy and we had a sinking cargo on that it was because the Army would not be troubled with her very engine. No doubt this is a kind but it is here we left about it at the time.

During her trouping days she was run by a French crew but when she was converted to a hospital ship, the B.I. Company took over. I doubt whether the British Company regarded her as much of a bargain.

I joined her as Assistant a few days before we were due to sail for the Far East. Soon after I passed a boiler stop valve down. This caused alarm and disapproval in everybody concerned as the Captain refused to sail. He mentioned that there had been no more mechanical breakdowns during the trip home from South Africa that, with the latest accident he regarded her as being unserviceable. An emergency meeting was called. The Sea Transport Officer told us that it was a matter of extreme urgency that the ship should not be sent and he proceeded the Captain against his better judgment to sail on the appointed day as we proceeded to Newport for coal.

Coaling completed, we embarked 25 vessels for passage to Australia and New Zealand and sailed on 15th May. We passed down the Bristol Channel without incident in poor weather. We got a glimpse of the Wolf Rock light-house through the rain squalls and that was the last we saw of England. Our first port of call was Swansea where we were expected to and after a rather rough night at Augusta we proceeded to Bari. Bari was remarkable for the number of vessels in the harbour resulting from an explosion earlier in the war. Going through a nearly flooded one and burnt shortly after that she was full of ammunition and night early then up at our station. We embarked 2000 men Australian and New Zealand vessels for passage to their homeland and sailed on 26th May. Soon after leaving Bari it was apparent that there was overcrowding on 'B' deck and that the military accompani-

later on) was quite in the number of patients—possibly only those who were not completely full—the *Irish Ship* two patients) and they began to leave the ship at the next port of call.

The Quarantine Medical Officer and the Irish P.O. were informed of this incident on arrival at Port Said. An upper bow of the ship resulted and finally we were instructed to proceed to Jeddah and disembark 75 patients. As may be imagined, this meant all febrile and it is not impossible that the two emphysematics had a pretty rough passage from those of their fellow countrymen who were left behind with them.

From Jeddah we sailed for Bombay. During the part of the trip many other defects came to light and we were instructed at Bombay to go via Colombo to Transvaal where all our patients were to be transferred to H.M.S. *Fanny* for onward passage.

We reached Transvaal on 2nd July and such fast dispatches the Transvaal arrangements for the transfer were rapidly made and the solution was arrived at next day. It was effected most expeditiously and on completion, *Fanny* sailed, leaving us in our own element.

We were to spend the greater part of six weeks in Transvaal a task we later on decided for us. We passed the time remaining playing bridge, visiting our friends on other ships and generally doing what we could to keep ourselves occupied. A frequent visitor was Captain Jackson of the *Ida*. He had rigged up one of his lifeboats with sails and a most efficient one under the name *Queen's* a big boat was in fact and we enjoyed the sight of His Majesty's Ship again as we felt we had been rather cut off from the Royal Navy to which we belonged and were just a few bit tired old sailors.

Time passed slowly and at last we were permitted to leave that we were being sent to Durban for a big lot. This gave some idea of the state of the ship when it is appreciated that we had only just completed one in 4 months.

On 10th August therefore we embarked to begin the passage to South Africa. We reached Durban on 21st August. The naval Officer in Charge informed us that we were to embark 11 male and 18 female passengers for passage to Durban. This order caused us no little amazement as we had been under the impression that we were a Hospital Ship and a consultant in both one and it seemed that we were to be turned into a passenger liner. We drew attention to the fact that there was a large number of tubercular patients on board and stipulated that the passengers should be informed that they travelled at their own risk. Written orders were issued directing that patients and civilian passengers were not to mix.

We spent tonight very busy at Messengers. The Principal Medical Officer and I were invited to the naval headquarters for lunch. There were well entertained—it seemed that they had been misled with the idea of being on the *Irish Ship* as it is possible. We had an excellent lunch which included the choicest green beans, and cream from the State's own cow. We could have spent several days there with the greatest of pleasure. We sailed on 22nd August and reached Durban on 23rd August when patients and passengers were disembarked.

As a precaution to the risk the ship was to be designated as a lot of men

had been reported. Consequently, the British ship's company, on not wishing to let September "Donating" be portrayed as so efficiently as London by means of R.N. First of all, papers are lost to the great importance in the ship and the gas is then provided by generators on deck. On this occasion the mortician stopped the rate was propulsion.

While this was being done, we split up into various groups where. The Principal Medical Officer, Supply Officer and I were accommodated in the Deck's Club, which was most comfortable. The ship was docked five days from 2nd September and the rate was resumed. On 10th September five broke out in the forward part of "A" deck at about 1100 in the forenoon. At one time it looked as though it might be serious, but it was eventually got under control by cutting holes in the ship's side and playing hose through them. On the following day repairs were extended that:

- (1) The patients' baggage store on "A" deck was completely destroyed
- (2) "B" ward severely damaged
- (3) Deck of "C" ward damaged
- (4) Structural damage to the hull in the area of the fun

As a result of this incident the rate was prolonged considerably, and the steelwork above it had had badly had to be ripped up and relaid. Consequently, leave was given to the entire ship's company. The majority of the medical officers, went to Johannesburg for a short course in tropical medicine at the Witwatersrand University. The most trip I found most interesting, and it was dominating to go through such areas as Tschambs and Johannesburg, which had featured so prominently in the South African War literature of our youth.

We found ourselves in Johannesburg most friendly. They evidently had a very soft spot for the Navy and the course was interesting and instructive. The hospitality extended to us was at times embarrassing and it was almost impossible to get our hands in our own pockets. To enter the bar at the Royal Club was the signal for some perfect stranger to invite us to have a drink with him, which he would not allow us to refuse and when there were no quarters there the bartenders treated us to drinking with them. One person has reason that he had once been equally entertained at H.M. Eight!

When the time came for us to depart we were put away permitted to settle our hotel bills, as we were agreed to consider ourselves as guests of the Navy League. I should like to see how much we appreciated the hospitality of these good friends of the Navy in Johannesburg. Unfortunately I cannot mention them by name as there were so many concerned.

We resumed the rate progressed rapidly. It was completed in the middle of October and we sailed for Colombo on 14th October with a total deck of eight officers, 110 nursing order and 100 patients. There was also one army officer for discipline and actually two patients, both returned women, one of whom was suffering from advanced pulmonary tuberculosis and the other from leprosy.

We now took the opportunity of visiting the medical stores. It had not been possible to do so previously as there was no store room and they had

arrivals these charges are fully offsetting any of the difficulties involved. A good standard team is used and on the kind of a temporary harness and you are put down to the job of sorting them out six months after a summer camp. I wonder from my diary that I understood these words "an arrival" with evident horror at so long a delay.

We had been given several pairs of boxing gloves in Durban and the medical staff men took up the sport with enthusiasm. One of the B.F.O. was a London policeman in private life and a professional boxer. He granted a excellent instruction and took great pains with ourselves who was known to know. Bock became very popular and we also motivated a fellow in Spanish, in charge of the Yunnan who was aided by three younger specialists. This club became very popular amongst some of the medical officers and the Yunnan was always ready and keen to oblige. It usually consisted of half an hour's exercise in the day's watches—often, however, sometimes followed by fifteen minutes more. One of the medical officers was exceptionally good, but it turned out that he had been an officer in the Merchant Navy before taking up medicine and, in fact, held a Marine's Ticket. On the whole we became fairly proficient before we paid off.

On 19th October we passed Huanan. Huanan is a French possession measures about eight hundred square miles and has a population of 250,000. The climate is said to prove to my taste of climate from tropical at sea level to temperate at 1,000 feet with the corresponding flora. The greatest height is 14,000 feet. I observed a forest extending on a level here. It possesses a long, tubular tree and I believe such like a giant, falling plumb from a height of at least 500 feet. It was interesting to watch the birds, pecking off, into a dove box all this as well like a dove hunter.

The steamed Maestros on 19th October, loaded our passenger and our second cooking.

Kuratau is about 120 square miles and has a population of approximately 200,000. Originally Dutch it was taken over by the French in 1711, who in 1802 sold it to the Dutch. It was taken by a British force in 1810. French customs have however been retained and French is the official language of the Island.

There are 140 miles of 4 ft. 6 in. gauge railway and a good reason of course, power. The chief industries are the cultivation of sugar and of course the manufacture of rum.

In the public gardens I was attracted to half a dozen of Brown's *Alseodora*. Though familiar with his evidence, I had not known that he was born in Mauritius.

As it was the medical Officer in charge looked on board with us and in the afternoon I was taken and placed in the main hospital at the island was situated at a height of 1,000 feet. There was quite a party from the ship there including several natives and everybody was making friends with the new arrivals stationed there. They seemed glad to have fresh faces amongst them, gave us tea and did their best to make us feel at home.

My speech on board or on shore still retained in the ship, stopping at the

hood "put" on. La Dorothea Matheson, under a speak one on the map. We were much surprised to see the local Indians there. He carried the milk can which took the form of a vast galvanized iron jar shaped something like a carriage wheel on its head. The top was put in front of his nose and it facilitated us to see him carrying his container. I supposed that man and milk must have been the staple diet of the island. No thought of a milk net to milk the milk.

We left Manurewa on Tuesday Dec. 21st October. At 2200 on 26th October the ship was obliged to stop as the main bearings had run. We were under way again at 0800 the following morning but yet we had to stop once again as the low pressure engine bearings and thrust pole had also come up. We spent the day dealing with the two blocks. Not under control "balls" exhibited and which were the time in fishing for sharks. We caught three small ones but one enormous brute which was a barb, caused the ship to stop. The ship was too clumsy for us, and although he himself had the best of his mouth on more than one occasion he reported it sick tone.

That evening I gave a short lecture on the history of the Royal Naval Medical Service. In the absence of any suitable reference books I fear that I had been obliged to draw more largely upon my imagination in its preparation.

In evening the repairs had been completed and we were once more under way. I believe that ever after this modified the "Not under control" balls were kept permanently fixed on these halliards.

Next day we had the final of a three's competition which had been in progress since leaving Durban. It ended between the Master at Arms and a York Berke Almond and after a close match the latter proved a popular winner.

On 30th October we reached Colombo and entered harbour. Learning to our surprise that the Calcutta was not a wreck on the barred edge of the light



HMS Calcutta about 1900-1901

deck as could possibly be imagined. It was a four masted sailing ship, as it could be well left a depth between 3.5 m (11 m) at the stern, painted with red lead and looked very ugly. The name of it was obvious was that the ship had an even greater misfortune. When the thrust pole had come there were no signs so that had it been still there, it would have been there.

The death was discounted on arrival and we were left with our two patients. It looked as though we should be unable to dispose of them as all the ship authorities refused to take them off the ship and would not give us any idea of what we were to do with them.

Two American battleships arrived that evening—the U.S.S. *California* and *Pennsylvania*. The former gave us a hoist and *Baranovsk* which was attended by some of our Officers and Nurses. The U.S. *Force-deportation* sailed.

A Board of Enquiry was held into our collision with *Calanor*. I never heard the findings and I don't left on 1st November, no death greatly missed of us.

Our next job was to take 500 gyvets to base and we embarked them on 1st November. We had to, now, covered motor teams to take our two coloured patients to Umingak, where we were assured they would be accepted from the ship. Accordingly we sailed at 08.00 on 1st November and anchored off Umanak at 15.15 the same day. The authorities were taking advice as to where to send us in a motor boat. We had some difficulty getting them onto the shore owing to rough seas but we managed by getting them out of the ship through a baggage port and manhandling the patients (one who was hysterical) onto the bottom of the shore. There was no protection of any sort from the sun and we rigged up some kind of an awning with a sheet and a blanket, which to all we could do for their comfort before allowing them to leave. The patients came out as in a bad way and I think of the least much longer. As soon as this system had been completed we weighed and proceeded.

In the time we left Umanak we had sorted out most of our cases. One caused some concern and I was asked to see him. He was a storehouseman and had arrived in Peurtoche by air from the United Kingdom in August. Three days after that he started to suffer from diarrhoea. This persisted and he began to lose weight. He was taken into hospital and finally admitted with a diagnosis of idiopathic steatorrhea. This diagnosis had apparently been arrived at as a result of an analysis of his faeces, which had a fat content of 40 per cent with 40 per cent split fat. After a course of diarrhoea of long-standing could however, have given a similar picture and it was obvious, by the time I saw him that there was something grosser at the root of the trouble. There was little to find clinically, beyond gross wasting with swelling of his feet and shins and also some pink and pale. The abdomen was soft and doughy, his pulse was of the type now marked dilatation of the superficial vessels of the lower abdominal wall. There was also a small hard tumour about the size of a nutmeg on the left flank, this was of fairly recent origin. The day before leaving the ship he had developed a new symptom—optosis, up himself. The blood was not in the nature of a final, incomplete but came up on the day of death.

The following investigations were carried out, on board:

(1) Complete blood count

Red cells 3.450 mm per c mm. Hb. 46 per cent

White cells 12,000 per c mm.

The showed no obvious changes on the last count before that my, hospital had been 3,500-6000 red cells per c mm. Hb. 56 and 12,000 white cells.

(2) *System*—Negative for acid fast bacilli on repeated attempts.

(3) *Urine*—Normal.

(4) *Pulse and Feet*—Negative.

(5) *X-ray Chest*—Showed a mass obscuring the cardiophrenic angle on the right side of the chest which had not been present in a fluoroscopic examination a month previously.

Before joining the ship his first round test meal had shown a low acid, normal lactate, index was 1.5 units and a barium meal was normal.

He was examined by the Surgeon-General who made the following report on 15th November:

"Almost certainly a malignant neoplasm. Primary, probably in the larynx of the pharynx. As a matter of interest if it will not upset the patient, suggest X-ray of chest and spine. Small clear tumour on the left chest, is probably a secondary growth but I would hesitate to insist it for biopsy as it would disturb the patient."

On 15th November he developed acute peripheral caries. Indeed last week prior to it by two pairs of blood culture counts. He developed vomiting of green and mucus from the same day. Next morning he was incontinent but became quite rational again in the afternoon though it was obvious that he was feeling bad. His pulse was raised as to suggest cardiovascular failure. The next day brought it up to 100 with Diogenes. On 16th November he had another respiratory collapse with vom. from which he never recovered and he also developed gyratory movements of his left eye, a flail like flaccidity of all his limbs, no bulging and a partial paralysis of the left side of his face. We had reached Aden at breakfast time this day and were fortunate to be able to get a Thomas Cathkin Person off to perform the last rites before he finally collapsed in which he died at 12.00 the same day.

Arrangements were made for his body to be taken aboard the same evening. He managed however to perform an extremely rapid post mortem examination. Two below the underlayers secured for him. There was a little free fluid on opening the pleura and peritoneum. There were a few collections at the base of the right lung. The subcutaneous lymph glands were very much enlarged and white, and tended to be continuous with the lymph nodes present. The glands around the hilum of each lung were enlarged and hard. The lymph glands at station of the lower right lobe with many nodules on the pleural surface. There were other nodules, mostly the size of grapes scattered through out the lungs and particularly at the left apex. The various other nodules presented a well defined, somewhat circular which was probably a pyogenic lung, pneumo-hyem, and a portion of the lung with the nodules attached would not float in water. The most dense was in the lower right lobe and it seemed to be continuous with the hilar glands. On section it was an irregular fleshy mass which cut easily. It seemed to present some of the characteristics of an adenocarcinoma, but even though branches were cut and examined as far as was possible no obvious primary growth could be demonstrated within a bronchiole.

The subcutaneous cavity contained about two quarts of serum fluid which

was lying flat. There were many adhesions especially around a frozen gut to peritoneum, and the transverse colon had attached itself to the stomach.

The liver presented no gross abnormality. It was not very enlarged, although it was a distance below than normal. There were three or four gall stones in the gall bladder.

The spleen was small and showed but of normal colour.

The stomach and intestines were without abnormality apart from the question already mentioned.

The pancreas was rather swollen but of normal size. In one place near its head there was considerable peritoneal thickening and induration in the substance of the gland, a hard nodule could be felt. The gland was fixed in normal colour for hardening prior to sectioning.

The kidneys were both normal with much of rapping capsule.

The suprarenals appeared normal but the right was taken for sectioning. The bladder, prostate and testis were normal.

Unfortunately, one did not permit of the opening of the shell. The tumour of the left side of the liver already mentioned was removed. It did not contain any colour, but was fixed, as characteristic. It was in all probability a secondary growth and was put aside for sectioning.

The autopsy was performed under the most ideal conditions. My small compartment in the after part of the ship which we used as a mortuary had no electric light and the work had to be done by the dim light of candlelight. As soon as we were obliged to work with great haste as usual to leave the body put together again in time for the undertaker to collect at the same evening. In the event we were only just in time, but it had been a well worth doing. I remember that the primary tumour was probably that on the posterior, and the case was a useful lesson to remember in any case of similar symptoms.

Before reaching Aden another of our patients suffering from gonorrhoea & tuberculosis had died and we had vaccinated him fully in the day of 19th November.

We left Aden on both November and reached Aden Pen on 21st November. Here we disembarked all our patients who were taken to the 7th French General Hospital pending onward transport to the United Kingdom. The hospital which was in the process of being done up by its owners planned to receive the influx of patients and it gave without saying that the patients did not relish waiting indefinitely for another hospital ship, so they had arranged that we should be taking them all the way home and I need hardly add that we should have been only too willing to do so. One of our patients on the trip was a former Chief Officer of H.M.S. "M. "Pomeroon.

We were now too few our assistant officers as he in conjunction with all second class officers in hospital ships was being withdrawn without relief. I therefore prepared to take over his duties from him. There was a prospect of being more medical officers and we of course better that I should undertake the job myself as in any case the ultimate responsibility would be mine.

On 23rd November our method of life the ship had disembarked in without relief. It was the old John Hunter's Locker and in addition to the two persons

arrived mid-November they had moved close to us. We could do little to repair her with *Uggs* at the end of the long, thin hospital ship—only limited operations were and were slow. But on the other hand, until mid-November the space and the sea team working prevented us from ever getting the ship properly clean, whilst our numerous headlamps had been a constant source of worry. On 22nd December our surgical operations and one other medical officer left the ship without relief. As we had lost to a chain in Bombay, our medical staff was getting really depleted, but with demobilisation on the way it was a state of affairs which had to be accepted. However, the Surgeon Lieutenant posted us to make up the three losses to some extent and we called on 'Red Danes', with a naval draft for Singapore.

A return to Malacca was of considerable interest to me as fourteen years previously I had spent 24 months in those waters on a 'herring' ship and we had recovered the Malacca Straits from Malacca to Klang. There were many familiar names on the Chart, some of which we had changed, notably the 'Van der Meer', which was named after a rubber planter who was at that time a friend of the Captain's.

We arrived at Singapore on 11th January. Exploring the Roads, we had a submerged wreck, which hit the ship's bottom in the region of No. 1 fuel water tank. This was to have a profound effect on our future movements. As we were obliged to go into dry dock in order to repair the damage sustained in this accident before we could go to sea again, this entailed a longer stay at Singapore.

We anchored as soon as we were clear of the wreck. Another naval hospital ship—the *Germania*—was close to us and at once the *London*, a Fleet repair ship, which extended the most liberal hospitality to us during our stay there. We were always invited to supper and to see their contents on 'Sunday evenings' and on many other times that whilst they could be made over to us, as planned as possible. There was little we could do to return this apart from providing female company for them!

On 15th February we at last got into dry dock. The period of waiting, though only just over three weeks, had seemed endless to us and there had been so many false alarms as to our state of the long thin, as we had begun to suspect that this would never be. There was only one dry dock at Singapore which could be used at that time and of course it was in great demand.

After docking a large diagonal crack was discovered in the ship's bottom, which was also badly dented below the forward well deck. At this stage the agent of the Singapore Harbours, which had forwarded us the ship, agitated her and immediately requested that we should be sent to Hong Kong with *Uggs*. He even wanted us to take a ship of fuel to our hospital berth. He was then to return with *Uggs* to our ship and take them to London. I was not a little doubtful at the proposition and immediately made a signal to C. in C. R.I. pointing out that we were below complement and consequently no ship to undertake such a commandment. However, the use of an aerial and on 15th February we received a signal from C. in C. R.I. instructing us to proceed to Hong Kong as we had ordered during

On 16th February a party, of no fewer and to Jolani and visited the Sultan's summer palace. It reminded me somewhat of a furniture store.

On 17th February, we went to a Chinese-Cham party at the Great Shell garden, Mr. Walter the Manager of the dock. This was very successful and those who had money used cigarettes before were retained into the night, with much merriment.

On 18th February we sailed for Saigon.

During the next three days we had a boxing competition for the Great Shell Hall during the day & night. Some excellent fights were witnessed and the houses shown by everybody spoke well for the entertainment given by the R.F.C.

We reached the Cape from which the ship took her name on 23rd February at 11PM after passing through a minefield without untoward incident. We stopped to embark a pilot and then proceeded up the river. The town of Saigon lies some forty miles from the entrance to the Saigon River. A number of articles from stores of weapons the entrance to the river and the town. There were Japanese ships which had been sunk by American aircraft during the war. In all there were about 22 and I imagine it will take a good many years to clear them away, if indeed this is ever done. All the damage had been accomplished in a period of rather days I was informed.

We reached our destination at half the same day. A delegation came off to see us and after we agreed to discuss the question of the number of men which we could carry, and ultimately we agreed to carry 275.

Next day, the Captain and I went ashore, and after crossing our boat French which was not really understood by the natives, we found ourselves at the office of the Messageries Maritimes. It was the chance to speak French had no help at all in its grasp and after perhaps ten minutes of this the man we were addressing said in flawless English: "If you were to speak English clearly I think, I should understand you better!" "Well certainly we proceeded with our business at a much faster rate.

The station at Saigon at this time was Colletier. The French were at war with the Chinese and Vietnamese in Northern Indo China. A big continued operation which involved the use of an aircraft carrier for a parachute drop was being planned to take place very soon after our arrival and French warships were then doing and taking to ammunition in Saigon. Presumably all the material which in the town was being done by Japanese Prisoners of War. These prisoners refused to take orders from the French so they maintained they had not surrendered to France and all orders therefore had to be given through the British military general officer whom they obediently obeyed.

I made contact with this officer as soon as possible. He informed me that the French were pressing for us to be sent up to Hanoi to bring a party of specialists down South. I was unable to get any official confirmation of this at the time.

Next day I called on the D.O., the Indian General Hospital. In the afternoon a number of us went to the "Café de l'Inde" where there is an excellent swimming pool in charming surroundings. We then returned to the Naval

allow where I found a good stationing as to getting to town. The coast line is good deal of opportunity as it would have enabled me being sailed right through the area of hostilities and this was a risk that we did not feel justified in taking for other than our own interests. I thought moreover that having reached Tientsin, no night will be asked to give hospital ship cover to the French for their condemned prisoners, which would then be well under way. I therefore obtained a definite assurance in writing that we should not be required to do this.

Late in the evening of 7th February two sick French attendants entered the boat where I was in the ship. They attempted to swim back but although the distance was not great a very well current ran here with a dangerous under-tye and one of them was drowned. The survivor reached the danger as soon as he entered the water and scrambled back to land after clinging to his friend. He recovered completely and never saw him again. I was informed of this by the survivor at about 10.15. I made a signal to the R. N. D. informing him of this so there was nothing else I could do in the circumstances.



Remains of French.

Next day I again loaded up with a quantity of Red Cross stores and I included a large consignment of bandage for the benefit of those at Tientsin we sailed at 10.00. Tientsin again was seeing the action of the previous evening's struggle was unchanged between the ship and the R. N. D. one of which is reported as that her boats had been recovered. This at least is my usual attitude to many reports as I had been suffering of her loss and had felt that there was a possibility of her having been captured by enemies and then probably tortured and murdered.

That afternoon I saw a very large fish on our path here. It jumped clear of the water line and came upon the deck, flapping about and making up a splash as high as our masthead. It was difficult to judge accurately but it was something like to say that it was at least twenty feet in length. It looked like a shark and I have never before seen one so large a fish jumping.

At midnight 3rd March we reached Tientsin and anchored in close company

possible. We were very surrounded by a number of native fishermen's canoes. There were small round affairs about the size of skimmers made of plaited or wickerwork plaited with cane like large birds' nests.

There were a number of wrecks in the harbor which were of considerable interest and showed that both here and Singapore (Singapore) are over these islands.

The Captain and I went ashore as soon as we had anchored. There were many wrecks made the hospital ship and had we relied on the landing parties we should inevitably have landed one or more of them. However, we were given a lead by an American fishing boat and all was well. We were met by one of the boats when we were a cable from shore and we then had there made all arrangements for the forthcoming embarkation.

Our patients were told of this which was 15 miles from Thana, and they were due to Thana by train arriving at 1.00. No arrangements had been made to bring them off to the ship and it was obvious that we were expected to do everything. The only power boats we had were two Merchant Navy lifeboats used with a ship. These engines and spars were suitable for heavy work. However, we agreed to handle the patients but stipulated we could not manage their baggage which must be brought off by hand. We returned to the ship and were both hours in great haste to meet the train, taking with them a medical officer, Surgeon Lieutenant de Vere, and an English doctor—a very energetic person as it turned out—and a signaller. The train did not come and I said which was rather for me, as I had to go off to the ship that day. However, we got four horseboats off that evening. After that the sea had got up considerably and it would have been dangerous to have attempted to embark any more. There was a mad rush to the boats when it was evident that there would be no more trips that night but Surgeon Lieutenant de Vere did excellent work in the ship and succeeded in getting some baggage onto the boats, much under his charge. Having a good command of French he was a most valuable officer for the task. He remained ashore that night in charge of the remainder, and as we perceived where or had been made by their comfort they were all obliged to camp out under rather primitive conditions.

Both power boats were again used morning at first light. Unfortunately, the engine of one broke down and could not be started again. The other worked well and took another boat as two on subsequent trips. These trips of the nature ended in bringing all the remainder of the patients off to the ship and the broken down motor boat, having undertaken to pull back to the ship with two men—all that there were on the boat—had been towed back by fishing boat. I went ashore myself on the last trip and found that all the patients, let us still hang on the pier, we arranged whatever having to be done made to do it. These men apparently still hoped to persuade us to bring it off in the ship's boats, but we could not undertake this as the boats had had a very heavy strain thrown on them and one had in fact, broken, so a number of the load she had been obliged to carry. There was a tremendous quantity of baggage and it was obviously beyond our capacity to handle it.

It was rather concerned about this as Hongkong (Singapore) de Vries informed us there was need for haste. He had secured a very comprehensive opinion from the medical adviser as he had made contact with the Chinese to need. It appeared that this trip had been arranged under cover of the Red Cross. The Chinese were normally in charge before but their turbulent allies, the Japanese, had no marked regard for the Red Cross, if indeed they had ever heard of it. The presence of a large number of French men, women and children on the trip was a very great temptation to them and they would have enjoyed a jolly afternoon spent in manhandling the lot. However, the General had them under his under control, but felt that he could not be responsible unless longer and stipulated that we must be clear of the place by 1400 as the latest, otherwise he refused to be responsible for the consequences. It was therefore of paramount importance for the luggage to be brought off in the ship without further delay and three packs were accordingly christened in trying it. Two made the distance but the third was unable to reach its agreed point and take and we were obliged to remain till a safe and safe to her and leave her alongside by means of a wreck.

Even then time was running but we could not accept any further delay as it was by then 1700 and we weighed and proceeded despite vigorous protests from the owner of the running luggage.

Conditions on board were chaotic. Owing to the overwhelming large numbers of our patients were obliged to sleep on the upper deck, which made us look like a pilot ship on a flag to India.

Next day we sorted things out and found we had the following passengers:

Males (sick and healthy)	544
Females	267
Infants	47
	—
Total	858

Of these, not more than 20 were sick. The remainder were in various states of good health and well recovered. It seemed to us at the time that it was rather wasteful to use a valuable hospital ship for a trip of this nature when there were so many use of no ships in Singapore and Calcutta waiting for a ship to take them home.

The passage back to Saigon was without further incident. Our passengers were inclined to regard the orders as unreasonable in the first instance, but we speedily despatched them and reached Saigon at 1800 on 7th March.

On 10th March H.M.S. *Porpoise* arrived from Hong Kong to show, the flag and I called on the Commanding Officer, Captain A. F. Pigden, C.B., D.S.O., D.N. It was refreshing to see one of H.M. Ships again for we had been feeling isolated and forgotten, and the warm welcome with a well turned out ship company made a great impression on the crew.

We gave a medical party on 7th March which was well attended and was composed by, eventually, who was there.

Next day we had a small ceremony in which I had words on the grave of our deceased sick berth attendants, whose body had been buried in our chambers.

This was photographed, a copy of the photograph being sent to his people as a small picture to them and to show that he had at least been given a decent burial.

On 11th March Freyberg slipped at 0800 and we exchanged "Good bye and Good Luck" signals with her. We then embarked 150 men for passage to Tindan and sailed at noon. A stormy sea followed to be a Russian, was discovered soon after and we put him ashore with the Pôla at the entrance to the river. Next day our speed was down to seven knots and we were obliged to stop for an hour or more to clear, here which had cluttered up badly, after which we got on at a much better speed.

Accident on 12th. The passengers were 4 women and 11 children, one of which a little girl called Danella, was barely 11 months old. We spent some time sorting out the things from the boats, by which I mean deriving no those who were really ill as opposed to those who had obtained passage on the pretence of having something the matter with them.

One first problem was to know what to do with Danella and her mother who had come on board with a diagnosis of pulmonary tuberculosis. We had been obliged to put the child in the women's tobacco-stow ward with her mother, who had already mentioned that she had never had the disease. After a very careful thoracic radiological and bacteriological examination we were forced to agree with her. As the ship was full to capacity it was difficult to know what to do with the baby, but it was obvious that the child had to be taken out of the tobacco-stow ward, and after a good deal of juggling we managed to find somewhere for them both.

There were a number of battle casualties which were in very poor shape, many of them having severe lacerations. Most of the wounds were septic. They may be classified as follows:

(A) Fractures

(a) *Right of Femur*.—There were 12 cases of fracture of the shaft of the femur, of which all but one were compound. All cases showed some distortion, the average being 1½ in. with a maximum of 3 in. and a minimum of ½ in.

Location of movement of the limb was present in all cases, the most marked being where only 10 degrees of flexion were possible. It is of all interest to note that one patient was an example of self-treatment. He sustained a compound fracture of the femur whilst fighting the *Assamites* and was taken prisoner. Being incapable he was left while his friends were transported elsewhere. He himself applied a traction of about two pounds by means of a bandage half and a stone. He remained where he was for six weeks and whilst, apparently immobilised the leg for a further period with a plank. On admission to the hospital ship there was a residual tuberculousity, but he came into the lowest category, in regards shortening, that is to say, ½ in.

(b) *Humerus*.—There were 6 examples of this injury, all compound. In one case disarticulation had subsequently been performed at the shoulder joint. The other cases were grade septic, and in three there was no evidence of union. One had been treated by plating.

(4) *Spinal*.—(1 case).—Only had 1 complete paragraph of both lower extremities. He had a number of bed sores, the worst being over the great trochanteric with an extensive one measuring 10 by 8 in. over the lateral aspect of the right thigh. There was a smaller one over the acetabulum. When he came to us the only dressings were those having remained of some ether gauze of cotton wool applied directly to the sores. He informed us that star, had had no action upon his illness days. There were smaller sores over both legs and feet.

(5) *Femur and Patella*.—Of these there were 10 cases. One was in a very poor state, the fracture being in the head of the tuberosity of the tibia. A plaster had been applied which extended as far as the ankle and so no way controlled the fragments so that the foot was rotated upwards at an angle of 90 degrees. There was an open wound over the site of the fracture from which extremely foul pus was exuding. Another case had marked displacement of the fragments. In this case the fracture was situated at the lower end of the bone and no attempt seemed to have been made to correct the deformity.

(6) *Radius and Ulna*.—2 cases. In neither had any attempt been made to correct the deformity.

(7) *Patella*.—2 cases.

(8) *Skull*.—2 cases.

(9) *Dislocations*.—1 case.

(2) AMPUTATIONS

(a) *Lower amputations*.—There were 8 cases with amputations at various levels below the knee. In only one case could the amputation be described as being to the use of dissection. In this case the lower or transverse wound probably, be necessary on account of torn and ragged of the bone and flesh adherent near union.

Character of these amputations can be summarized as follows:

(1) *Condition of Bone*.—3 barked and adherent. 4 well exposed.

(2) *Site of amputation*.—5 cases with 2 each stump. 3 with amputations below the middle.

(3) *Condition of Nerve and Joint*.—In all cases there was but a stain of nerve matter at the nearest point, and in 5 cases it was well lost to interfere with the proper fitting of a terminal prosthesis.

(4) *Swabs and Dressings*.—Out of 4 cases measured, all showed wanting the swabs being 25 in.

(5) *After care amputations*.—There were 4 such cases. In two gunshot amputations had been performed without flaps, and no attempt had been made to prevent contraction of soft tissues. Only one case showed no evidence of sepsis and in two the stump was discolored and the war adherent to the bone. In one case it appears reasonable to suppose that sepsis was in continued by the prolonged application of a dressing—right lower—the patient, wound of the leg. Another case a boy lost his right leg amputated after had some shell fragments remaining in his left knee. No attempt having been made to remove them. The knee was actually swollen and painful and a septic arthritis had developed before he reached the ship. It became necessary to explore and drain this joint during passage.

Quil-Covered Wooden Litter Taken Aboard

The interesting point about this case was that he had refused to allow the surgeons to ligate his leg, and suspected the leg. A very rapid improvement in the following wound measuring about 3 in. by 2 in. was seen and including the tendo Achillis resulted in soon to be received proper treatment, and before the end of the trip he was getting about on a walking plaster.

PLUMBERY TUBERCULOSIS

There were 20 cases of this disease. I was desperately ill when they came to the ship. 4 of them died during the last eight days of the voyage, the fifth succumbing on 15th March.

Artificial pneumothorax had been adopted in a number of cases.

HICKSON LESIONS

During the course of routine investigations a number of hematurias including 7 cases of *Staphylococcus haemolyticus*, *Streptococcus* and *Acidobacterium haemolyticum* were discovered.

The case case of myelomatosis was, not without interest. He came to us with a diagnosis of "Dysuria" and "Leucuria." He had a profound secondary anemia, the red count being 1,000,000 with a hemoglobin of 30 per cent and a colour index of 0.5 for which he had been treated with liver preparations. He was first given a blood transfusion and soon after the myelomatosis was found in his urine. He improved rapidly with appropriate treatment.

"S.A.D."

In order to complete the picture and by way of contrast, there were 32 people who although conveniently labelled "Syphilis," "Fulminant" and so on, really had nothing the matter with them. They were a tremendous nuisance as they appeared to think that they were taking passage in a luxury liner and expected all the facilities of such a vessel.

The above cases give a very brief account of some of the problems with which we were faced. There was plenty of scope for anybody who had an aptitude for surgery and a lot of excellent work was done about which more will be said later.

One of the tubercular patients died on 15th March and he was buried at sea, at 1730. Two Catholic Priests who were among the passengers solicited.

We reached Singapore on 16th March and we lured down to our old friend *Georgina*. Soon after anchoring a small party came, all in a motor fishing vessel and demanded a passage to France. As the ship was already crowded to capacity we could not accommodate them and we sent them back unless they were placed after a long argument.

Soon after this we received a signal instructing us to proceed and as it was then late we remained until next morning, weighing at 0530. Another of the tubercular patients died just before lunch. His body was committed to the deep at 0710 next morning. Another collapsed at midnight and died at 0130 on

15th March. He was buried at 1108. A boiler taken home next day and badly needed a boiler. Two cases of chicken pox were found amongst the children on 15th March and another tubercular patient died on the same day. As he was a Protestant the Captain read the burial service over him, there being no Protestant Chaplain in the ship.

Later in the forenoon I interviewed the mother of one of the boys with chicken pox, pointing out to her that she had no business to allow the child to come to the ship, as she must have known that he was a contact. She merely growled. The English make such a fuss about a little thing like chicken pox!—and there the matter rested!

Case, Mortimer

A few details of some of the cases may be of interest.

Case I—Male aged 32

This man contracted a granular ulcers on the right testis on 21st January 1945. The same day the external dose of virus was injected. The big, bluish glands soon and a granular inguinal lymphadenitis began to appear on 15th February. On 15th February granules of the posterior part of the stamp were used. The reaction of the glands 4 weeks. The stamp was stained with carbol fuchsin.

Granules on ulcers on the Granular Stage

(1) In five granules deposited on the middle of the testis of the left testis, each of two, immediately following it the stamp was used in posteriorly. Captain had earlier, during the stamp and later.

(2) No other reaction was observed. The testis was not supporting at its base and

(3) No other reaction was observed. The testis was not supporting at its base and



Granular ulcer on testis of a patient with the disease, 1945, 1946.

Case II

This is a female, aged 25, who contracted the disease on 15th January 1945. The stamp was used in posteriorly.

On 15th March the stamp was used in posteriorly. The reaction of the glands 4 weeks. The stamp was stained with carbol fuchsin.

Before leaving Colombo my complement was adjusted by the addition of one Nursing Sister, one Regulating Petty Officer, four Leading Sick Berth Attendants and sixteen Sick Berth Attendants. We also embarked one more patient, a Dutchman.

Next day the D.F.T.O. sent all one of his officers as it had ^{been} sent to his own ship, two patients who joined the ship yesterday, had not been given any supper. Actually only one patient had joined—the Dutchman mentioned above. The officer was started to have a talk with him and the patient assured him that he had had an excellent supper.

The trouble had started with some of the up patients refusing to do the various chores, such as washing up the dishes after meals, which is the prevalent custom. It had almost reached the stage of open mutiny and in order to maintain discipline we had been forced to threaten them with "No washing up, no supper." They had been defiant and consequently had gone to bed hungry, were being taken that this week at least a new program looked after. This had undoubtedly led to the remark that a new one had been released for supper. We sailed on 1178 on 20th March and soon after leaving harbour my former Medical Officer reported that there was a *député* on his way. This comprised three French medical men, one a naval surgeon, one a military, one and the third a civilian who described himself as a "Professor of Medicine."

They were perfectly courteous and very polite. They warned me that there was serious trouble brewing and strongly advised me to get the chores done by the "ship's staff." I refused to compromise and explained that they must abide by the custom of British hospital ships. They replied that it was not the custom in French hospital ships and I unfortunately missed my opportunity of pointing out that there were none. Next they complained that the ladies were not getting sufficient food. I promised to investigate this and when, quickly discovered that one or two of the ladies were gubbing the whole lot.

The *député* left me with much food for thought. I went to the Captain and talked it over with him. We were both obliged to admit that if the worst came to the worst, and we were forced to maintain a watching to the discipline we should at least have secured a good deal of succourment at no expense as being the only hospital ship which had ever had to have a guard to protect her officers from their patients!

I decided, however, to try the personal touch and at 10.15 we cleared the lower deck of patients and I addressed the sick interests through the medium of an interpreter. I explained that it was the custom in British hospital ships for the uppatients to do the chores and I appealed to them for their co-operation and assured them that we should always continue to do our best for them. By the end of my speech the assembly, which had been vaguely hostile to begin with, had swung right round on their attitudes, and the conclusion of my speech was greeted with acclamation and we had no more trouble of this nature.

I am fairly convinced that this trouble was deliberately stirred up by somebody, and although I had no complaint regarding his identity I had

nothing definite to go on and so was unable to take any direct action against him.

Another patient died the same day, and embarked here at sea at 1750 on the evening. On 5th March we sustained the effects of the sick berth outbreak which had been detected the afternoon 1889 to 90.

We reached Suva on 7th April *Albatross*—on passage from the Fox East—delivering us as I was invited over by her Quartermaster evening and met Surgeon Captain Lane who was taking passage home on her.

We worked over the and some of us dined where that evening with the S.F.O. We sailed at 0700 next day, and were passed by *Albatross* some days. We exchanged signals for a while and had a lot of amusement with the novel biblical quotations.

An acute abdomen presented on 10th April and Surgeon Lieutenant de Lacy operated that evening this being the first time that his operation theatre had been used for a major operation since we recommenced. This operation having a better but appetite for surgery. Surgeon Lieutenant de Lacy was called over the on carrying a very rare calculus which had been breaking the Strait at Suva for five years. This was extremely gratifying to the patient and the surgeon on previous attempts to remove it by, while surgeons had not met with any success.

We reached Suva on 19th April and next day the sailing route was taken where in order to be let up with warm clothing. The hot sun was measured for them on board and it was brought to them.

At 0800 the same evening we entered the Canal arriving at Port Said next morning. Yet another tubercular patient died that night.

We left Port Said at 0600 on 17th April. The weather after being hot and windy to start with soon began to get colder and we left the Channel shortly as we were still in doubt as to then to the temper.

Crews was in sight from early morning until late afternoon on 14th April and the peaks of the mountains were still seen several miles from the sea.

We still had no official information as to our port of destination, and although we knew that the ship was to be transferred to the French Flag after this voyage we did not know where the transfer was to take place nor what we were to do with our crew of stores. The Captain had met a representative of the Sea Transport Department at Port Said without obtaining any information and I had done a similar thing as a result of making a signal to the Admiralty. At 0700 on 17th April therefore with immediate dropping anchor we started the ball rolling by signalling an E.T.A. to Toulon and also making another signal to the Admiralty requesting a reply to come from Port Said. At 1000 I received a message from the Admiralty instructing me to state the value of the medical stores carried. This proved too much for me and the captain, as doubt in our minds, expressed our sentiments by breaking down our wires.

I replied to the effect that we had a complete naval hospital ship and of medical stores on board in addition to ours. As yet at now we had taken over on recommissioning. In the absence of the radio link as of a signal station.

makers catalogue it was quite impossible to give any sort of estimate of the value of these stores. Next day, I received a reply to my signal of 17th April stating that an admiralty signal had already replied to my enquiry, from the *Beal*. Not having received this signal, there was nothing for a hot bed and a report.

We reached Toulon on 20th April. We had disembarked all our patients by 1730, and as we were pushing ourselves on a difficult job of work successfully accomplished, the S.T.O. colonel informed me that all naval personnel were to be out of the ship by 1800.

At first I thought that he was joking as we had had no official instructions of any description. However, he is in command and it took me quite a time to convince him that I had no intention of being bottled out of the ship like the thousand other thousand patients' worth of medical stores behind me. Eventually it was agreed that we should remain in the ship for the time being. We left Toulon for Marseilles, next day, passing the straits of Genoa. French warships which had been scuttled by them even so—an act which at once he disapproved was looked on as a point of glory for them.

We reached Marseilles at 1700 and next day, Lloyd's Store room was requisitioned by two English Komms who came off to the ship. They, very kindly lent us a car for the afternoon and the Captain and I drove up to the Church of Notre Dame, situated high on a promontory above the town and visible for miles, under moonlight.

At 1100 next day a conference was held in the Wardroom to discuss the question of handing over. It was decided to commence this job on Friday, 24th April and to complete it by 4th May. Unfortunately, there was nobody who would accept responsibility for the medical stores, there being no French medical officer present, and as we, too, I had had no instructions what to do with them.

That evening I visited all the medical officers, medical and ship's officers, to say hello for a formal visit, and this was followed by a formal dinner party, the menu a surprise to us, having been chosen by the colonel.

Next day, the majority of the sick berth staff left the ship, being taken to hospital by car in order to look up with Vesalius. The colonel left at 0700 the morning after, so that there now remained only the ship's officers, myself and sufficient of the sick berth staff to keep on duty on the medical stores.

The two war provisions stores as far as the ship's stores were concerned, but as I could get neither any instructions nor anybody to take an interest in them in any change which included various valuable such as to provisions which were not strictly medical stores, and I rather have a little signalling property.

I was beginning to imagine that I should spend the remainder of my life in Marseilles, but at length I got a signal from M.D.C. instructing me to offer all the Medical Stores to the French for a sum of £10,000. This was a start and gave me something definite to go on, but I was still unable to find anybody to take an interest in my offer. At last I was obliged to make signals to M.D.C. and Director of Stores explaining my difficulty. I also made representations on

all quarters on Marselles, and after a bit of bother I was informed that a doctor was actually on the way from Paris to take over from me and that he would arrive not later than 1st May. In the event, he was only 12 miles from home, his ship's mail being so regarded as being on the stroke of land on those quarters. I suppose.

We proceeded to master the medical storm and, as I had warned, he soon gave word of this so it would have taken weeks of unnecessary work, to do it properly. On 14th May the French gave a champagne party to celebrate the return of the ship to its former company. As this was to be my last day in the ship, I thought it would be doing if our officers were asked to the limit of "Saut". I therefore tried to borrow a bottle from the Army for this little refreshing, but unfortunately not one was to be found in the whole port and it had to go by default. Next day the head landing over took place and I was able to get a reputation accepting my share at the press I had been told to ask. Most of the day's officers caught the evening train to Paris leaving behind the Captain, Wireless Wardmaster, Chief and Second Stewards and myself. We spent two days among the sights in Marselles and the Wireless Wardmaster and I caught the evening train to Paris on 17th May. We spent the 18th and 19th in Paris and while there I met the Professor of Medicine at the Ecole Supérieure. He was now 61 miles and seemed delighted to see me. We left on the midnight train for Dieppe, arriving in the early hours of the morning. We called the Soubiseville at 6.15 in the *file of Arcep* and then catching a fast train reached Victoria at 12.15. As 1st May evening I was in my house in Dieppe and so ended a very short commission, into which had been packed a great deal of incident, a lot of frustration and very much of nonsense. It was a sad moment when the time came to say "Good-bye" to the ship, as although she had been dropped by, on nearly all back the known shortcomings had been remarkably good and we had worked with a reasonably efficient team.

A few remarks on hospital ships may not be out of place. This is the only experience of such a vessel that the writer has had and it is unlikely, and so there should be another one, that he will ever see or attend. Any systems which he may have in other are therefore of necessity limited to the last time in which he served in one.

A hospital ship offers two main opportunities for better management than in land due to be an easy success to manage. It is therefore of great importance that the Master and the principal medical officers should act as examples to the remainder in working together in the above manner. In an area of operations there was no difficulty about this and it is unfortunate that it is regarded as being the case of the whole matter as happens on the top of all spread there in all levels in the ship. The converse is equally true.

One of the greatest drawbacks to this hospital ship was run by the Sea Pressing Department. The consequence is that very personnel are moved, not from moral reasons at all but by the Company which owns the ship and they do not even lose the benefits of the N.A.T.O. to the contrary is shown by

the Company. Prices charged are in accordance with a scale laid down in the 'Regulations for the Vagary & Sea Transport Service'. They require very uniformity with those obtaining in the N.A.F.I.

In my opinion all naval hospital ships should be Fleet Auxiliaries. There should be General Messing which should be supervised by a supply officer exactly as in others of the Vagary & Sea and there ought to be a N.A.F.I. section in the ship. This would ensure a very real guarantee as at present of the staff will have a complaint about their running there is nothing that their own officers can do to rectify it.

A short 'Professional Course' would be invaluable to the principal medical officers and the senior medical officers before they took over such a ship. Many of their problems are purely technical in nature and such a course would be most helpful. In particular it is extraordinary the amount of knowledge of the nature which one requires continuously during twenty years of service in the Service.

Another point which has caused me much thought is the question of nursing training centres in these ships. I do not know what comments the Red Cross can expect to elicit in any future war—probably none. If this should be the case I regard it as very wrong to expose women to the risks of total war at sea. I can not at this time envisage the courage and devotion to duty of the nursing system which have nothing whatever to be feared and in which they are second to none. I know that they themselves would wish to share all the risks involved. I merely query whether it is right that they should be exposed to these risks. It is a question that I cannot decide in my own satisfaction, as the standard of nursing would necessarily be of a lower order without them.

Perhaps these problems may never arise again and that in any future war the sick and wounded will all be evacuated by sea, though in the interim against this is unlikely. Perhaps there will not be another sea though this seems still more unlikely. Possibly with atom bombs there will be neither war nor wounded. Who knows?

The nearest war is probably one which could be averted by one of our hospital ships. It is an ever recurring and probable unless still receding but the experiences were not without interest to those of us concerned and I think it well to keep a trace of our work as a hospital ship.

I shall always owe a debt of gratitude to Captain Peter Wright of the R.F.S. O. who met me upon this half-way in all the official dealings which I had with him and who was an ever good friend and colleague.

Clinical Notes and Cases

BLINDNESS FOLLOWING UPON HÆMATEMESIS

BY

Major-General Commander D. F. CURRIE, M.D., B.Ch., F.R.C.S. (Eng.),
D.O.M.S., R.N.

This case history is submitted not as a clinical rarity, but rather as an account of a sinister series of events which might be encountered by a physician or ophthalmologist at any time.

Case History

A retired man aged 44 was visited at the request of a private physician. Until the present the patient had been found living and well as a private patient. He stated that he was visited by various eminent physicians, and that several reports had been made, from time to time, stating that his sight was failing and he, however, regarded himself as healthy.

On examination—the patient was found to be blind and the right eye was found to be opaque and the iris and cornea were normal. The left eye was found to be opaque and the iris and cornea were normal. The patient stated that he had been blind for some time, and that he had been blind for some time.

Treatment was started by daily application of iodine to the eyes, and the patient was found to be blind. The patient was found to be blind. The patient was found to be blind. The patient was found to be blind.

After further the patient began to see. He was found to be blind. The patient was found to be blind. The patient was found to be blind. The patient was found to be blind.

Discussion

Blindness after haemorrhage from the stomach is a rare event, or long, but a rare but well recognized occurrence. At the time of death from the disease are rarely associated with renal impairment, as they would appear that some factor in addition to the haemorrhage was present. Underside view of the case has been recorded. The pathological changes start in the ganglion cell layer of the retina and then is followed by degeneration of the optic nerve fibres. It is not changed that ophthalmic treatment influenced the course of this case in any way, but the prompt production of coagulation in the retina is important, and can be effected by, paracetamol and can be obtained by, paracetamol. A further to Jones (1911) the interval between the bleeding and the onset of blindness vary from hours to several days. No previous of patients (many) in whom and complete visual recovery is unusual.

REF. (1911) 1

Jones (1911) Treatment of Ophthalmic Diseases, 2nd ed. 1914, p. 107.
Thomson (1911) Journal of Ophthalmology, 1911, 10.

A NEW RELAXING AGENT

87

Surgeon Lieutenant-Commander A. O'CONNOR, M.B. B.S., M.R.C.S.,
I.R.C.P., R.N.

The use of anæsthesia in various forms to produce relaxation in man has not hitherto been a standard procedure, but other drugs with a similar action have been prepared, and it has recently been possible to use such a synthetic compound, viz. (diethyl amino ethyl)-benzene methylethide. Supplies of this drug known as Flaxedil were obtained through the courtesy of May and Baker Limited.

The pharmacology and effects of this drug have recently been described (Shulman et al., 1950) and may be summarized by saying that it has a more intensive action on the involuntary muscles, but differs from chloroform chloride in having little paralytic action on the voluntary muscles. No side effects have been observed. Weight for weight it is said to be about one third as potent as chloroform chloride but to have a more selective action on skeletal and smooth muscles.

It has now been employed in a series of 10 cases, all adult males undergoing operations requiring gross muscle relaxation. These included laparotomy, appendicectomy, liverectomy, haemorrhoidectomy and orthopaedic operations.

Preoxygenating every case was 1 g. oxygen and 1/10 g. neopentane. Approximately 0.5 gram Flaxedil was used for induction of anaesthesia, followed by additional 0.25 g. Flaxedil as required. Flaxedil was given intravenously slowly, before the actual incision. The number of cases where this quantity was employed is small, but certain observations can be drawn from the series.

It has been the practice so far with chloroform chloride to give a small dose initially (about 40 mg.) and observe the effects, in case the patient might have an idiosyncrasy to the drug. No evidence of this has so far been observed. This quantity of Flaxedil has an effect on the muscles and early relaxation of the jaw and facial muscles can be seen at first surprisingly quickly. After a pause of one minute a further 50 mg. is given, and usually respiratory movements are noticeably affected after about 15 sec. In one case the lungs are inflated for a further period of about one minute and anal relaxation can then be performed as a rule without any difficulty.

A total of 150 mg. of Flaxedil administered in this way has been found to produce satisfactory relaxation in most of these patients, but early attempts using about 50 mg. were not successful. The former quantity will produce considerable respiratory paralysis lasting about five to ten minutes, but then diaphragmatic respiratory acts in which other muscles including intercostals resumed partially. This tends to produce a jerky respiration, which appeared to be more marked in the presence of ether or trifluoroethyl ethylperthane, and might well interfere with prolonged operating in the upper abdomen. After a total period of about fifteen minutes from the original respiratory depression was usually adequate without assistance, but relaxation in the lower abdomen

small but above a further ten subjects. Both the onset of the disturbance and the persistence seemed rather greater than when using equivalent amounts of diuretic agents (chloride).

On the other hand, the solvent produced through adequate (in the sense of 'blowing paper') quality, although this could be obtained for short periods by using up to 160 mg of Phascol. The best results were produced by ascending low light a plane of anaesthesia.

In haemorrhoidectomy apparatuses, 100 mg produced swelling or leakage of the anal sphincter and little or no interference with respiration after the first few minutes.

No unexpected reactions occurred during anaesthesia, pulse rates and blood pressure not being noticeably affected.

Recovery from paralysis had to be accelerated in one case, when a second dose had been given shortly before completion of the operation. 1.5 mg of procaine and 1/16 gr of atropine produced a very rapid return of motion. This could appear to be a satisfactory antidote.

Post-operative complications were very few. In fact the vomiting rate was surprisingly low—approximately 5 per cent—even allowing for the fact that Service patients do not normally have a high vomiting rate. Four cases had post-operative difficulty in respiration, two needing an oxygen tent of forced, so two of these cases were haemorrhoidectomy failure and a third was a very distressing patient. It is considered that the agent cannot be blamed for this finding. Three patients had a mild post-operative cough, which cleared with expectorants and rest, and a fourth had obviously a small area of collapse on the left lung following a left inguinal herniorrhaphy. No venous thromboses occurred.

CONCLUSION

(1) Phascol[®] is a useful relaxing agent which appears to affect the diaphragmatic muscle less than the abdominal and limb musculature.

(2) Its effects are rapid, its both appearance and disappearance.

(3) It appears to have no side-effects. Procaine with atropine constitutes an excellent antidote.

(4) Post-operative complications were few and minimal.

I am indebted to Captain Peter Edward J. A. Maxwell D.F.O., C.B.E., F.R.C.S.(E), R.R.S., for permission to publish this article.

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As in (14), the *wh*-movement in (15) is to give contrastive emphasis to the *wh*-phrase. The contrastive *wh*-movement in (15) is not a question, as the *wh*-phrase is not a question word. The *wh*-movement in (15) is a contrastive *wh*-movement, as the *wh*-phrase is a contrastive *wh*-phrase.

Wang, T. and S. J. Lee. 1999. *Journal of Great Lakes Research* 25: 1-11. <http://www.sciencedirect.com/science/Browse?ref=11>, as
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The first is a *reconstruction* of the actual physical process that took place when the system was in the state ρ . The second is a *simulation* of the system's evolution, which means the system's state is described by a set of numbers, and the evolution is described by a set of equations.

Finally, the authors note that the results of this study are not generalizable to all populations. The authors note that the results of this study are not generalizable to all populations.

Pharmaceutical Research and Development in the United States: A Review of the Industry's Performance, 1990-1999. *Pharmaceutical Research and Development in the United States: A Review of the Industry's Performance, 1990-1999*. Washington, DC: National Academy Press, 2001.

There is a local point of the affine space \mathbb{A}^n over \mathbb{C} which is a local point of \mathbb{A}^n over \mathbb{R} if and only if the point is a local point of \mathbb{A}^n over \mathbb{R} . The converse is not true. For example, the point $(1, i)$ is a local point of \mathbb{A}^2 over \mathbb{C} but not a local point of \mathbb{A}^2 over \mathbb{R} . The point $(1, i)$ is a local point of \mathbb{A}^2 over \mathbb{C} because it is a local point of \mathbb{A}^2 over \mathbb{C} . The point $(1, i)$ is not a local point of \mathbb{A}^2 over \mathbb{R} because it is not a local point of \mathbb{A}^2 over \mathbb{R} . The point $(1, i)$ is a local point of \mathbb{A}^2 over \mathbb{C} because it is a local point of \mathbb{A}^2 over \mathbb{C} . The point $(1, i)$ is not a local point of \mathbb{A}^2 over \mathbb{R} because it is not a local point of \mathbb{A}^2 over \mathbb{R} .

Let \mathcal{L} be the language of \mathcal{A} . It is well known that such a structure \mathcal{A} can be coded by a subset of the natural numbers. The code consists of 1, if some element of \mathcal{A} satisfies φ and 0, if no element satisfies φ , for any $\varphi \in \mathcal{L}$. Equivalently, the code consists of the set of

For information, contact the American Veterinary Medical Association, 1915 N. Lincoln Ave., Schaumburg, IL 60196, or call 1-800-245-2849.

400 dead are now on ice. If several species of fish, including the salmon, are to be saved, it is a completely lost cause. It is a matter of time before the fish will be completely exterminated. The only hope is that the salmon will be able to survive the winter. The only hope is that the salmon will be able to survive the winter.

The authors acknowledge the help from the staff of the Department of Agriculture in the collection and identification of the *Leishmania* specimens. The authors also wish to thank the staff of the Department of Health for their assistance in the collection of the blood samples. The authors also wish to thank the staff of the Department of Health for their assistance in the collection of the blood samples.

The distribution of all the possible paths $p \in \mathcal{P}^{(n)}(x, y)$ is uniform, i.e. all paths p counted as valid paths have the same probability of occurrence. However, this means that the number of paths

for fracture. No signs or symptoms. (I think this is untrue—they do not use the word "fracture" any more.) He says that the popular cult of orthopaedics is one of the biggest reasons for his loss of business. There "would-be" orthopaedists continually demand an X-ray of the sound limb as part for comparison with that under investigation. My friend said a little wistfully that while he didn't expect an orthopaedist to think a radiologist would know a normal without having something with which to compare it, he did expect them to have more confidence in themselves.

THE INTER-SERVICES TENNIS TOURNAMENT 1944

Two mixed teams made 2 between the Nursing Services of the King's Army and Air Force took place at the Royal Victoria Hospital, Woodvale on the 2nd September 1944 when our Q's team was given by the Queen Alexandra's Imperial Military Nursing Service. For the second year in succession the Cup was won by Victoria House Royal Air Force Nursing Service, and the two winners were presented with replica cups. It is hoped that one Q & R N S R representative will retain the cup this year.

ROYAL NAVAL HOSPITAL, MALTA

Looking back on the year 1944 it can be very definitely stated by members of the staff at Rights who have previously served in the hospital that they have never known a year in which the sporting and social events held in the hospital have been more enjoyable and successful. This can be attributed to the goodness of the organizers, and the loyal support of everyone concerned and especially the ladies which exists between officers, sailors, V.A.D.'s and gaily hearted staff. To get the pre-war business on going and sound on once again took time as so many of the staff did not remember Rights before the war with the exception of the men surrounding the hospital on three sides there is hardly a spot which has not suffered some damage. Tennis courts are cracked, bathing suits destroyed and very few of the buildings have escaped a bit somewhere. Transport was as difficult as where most of the staff who had their families in Malta, need to live near the hospital in Cirkara, there are now scattered all over the Island. Despite these handicaps it can be re-stated that 1944 was a good year.

THE BOOK PLATERS

It is believed that a Bookplate Society is an innovation at the hospital. The first production was the pastiche "Meditation for Christmas 1947" that was followed by a variety, interminable often producing new talent was discovered. The Amazing Dr. Chamberlaine and George and Margaret followed and both productions were excellent. Christmas 1948 brought us "Jack and the Donkey" and at present we are looking forward to "The Little Nipper" which is to be produced shortly.

WATER POLO

Commencing the season with a team consisting of very lean but very experienced players and a few untrained students, it was naturally, considered one of the underdogs and a variety of matches were played with good results. Next season should be even more successful as last year's team has now been combined with ball control and great strategy.

Aggagite Games

From May to August or so, in August, our aggagite sports were held on the rocks, and provided the hospital staff and families with a pleasant afternoon. Competitions were keen—on the official starter list to start the season had between two targets, gas a both spectators and competitors as my witnesses— we had a splendid time in the combined off site of the lake, and the afternoon concluded with a young prize match—C. F. D. and P. D. versus L. S. H. A. and S. H. A. with no quarter asked in prize. Much for once in our sporting career just managed to win the day. Prizes were distributed to the first match at one dinner in the recreation hall.

Combined with our aquatic activities, musical work to make in the kitchen, the staff have shown in life moving and recreation, and last year's awards were awarded with the aggregate top a great triumph for the person, prizes and trophies whose participating efforts have been well rewarded.

CRICKET

Last season our afternoon sports often and further were most enjoyable— as in all our sports and hobbies have those of pure sports falls within a small circle, but we were doing to have exceptional enthusiasm and support from top to bottom, hence every game was eagerly awaited and keenly contested.

Next to a strong game was given more again, illustrated this result as High Park—no other had any to make, and the last season—our prize went over to called "blinding" and used our powers are awarded by "Mr. Lark" we must continue to use an excellent more suitable for use in the Ministry of Geological Survey. We had with H. W. F. Jones in our group began and a request three matches to come to a decision—no last two better than last year in the season, retained the Kilmoryd up with more in the annual contest with the village team.

Results: Played 21 Wins 15 Loss 5 Drawn 1

In response to overwhelming requests we commenced a better team, coached by a few of the aggagite team that showed some excellent form in contests with other lakes teams. However, the problem of the strength had and which had to be out of the ground was it be located in a few days, hence our girls often heard the aggagite girls who had to be the fall of the camp. But they all must desperately hard and gained such experience which will stand them in good stead for the next season.

Tennis

All parties are held as recognized tennis courts in the tennis-club grounds of other cricket sports—this is taken a given as elsewhere a long cricket field is all season. The American tennis club and Japanese tennis club have lately contacted—they provided necessary tennis-shops and tennis gear in abundance. The latter were given "Medical Men" T.M. staff tennis apparel whereas apparently that Anglo-American club had no tennis attire. Perhaps a green and white would have made a more appropriate match the white and red spot. An expensive season.

Football

The season has gone as some would guess, but not in general fact. All military push to get to their positions in football and it is, still, pushed that one through is, only that which is, but, in which. The club average up to, for too high the competition in which and to keep the pace with the younger teams but the spirit never flags, and although one position in the light is back, one football match has produced one very unusual but gratifying result.

Hockey

The message to hold three teams, now, back, and match and the season to date has been most successful with a variety of fixtures and good results. The teams contain a good many members of everyone in the hospital.

THE NEW ROYAL NAVAL HOSPITAL, HONG KONG

By

Surgeon-Commander D. F. WILSON, R.N., F.R.C.S.

On the re-occupation of Hong Kong, in September 1945, the Naval Hospital at Wanchai was found to have suffered considerably from damage on addition to having been looted. Immediate Service needs were met by taking over two floors of the Queen Mary's Station Hospital. It was found without but in a much smaller extent. It was within the power of the staff to rearrange to effect the necessary changes to the power, light and canteen systems, which had been totally disrupted by neglect and vandalism.

The rehabilitation of the Naval Naval Hospital at Wanchai would have been a costly undertaking particularly concerning its rebuilding. It was Surgeon Captain C. Hastings, M.C., M.C., rightly considered that it would be preferable to build a new hospital on another site rather than spend a large sum on a hospital which medical opinion had considered the best and also able.

The plan was now had been acquired in 1946. It was then a small peninsula and when the hospital first few hundred patients used the service at the hospital at the time. With reconstruction of the structure, the hospital became supported from the sea wall and a new, strengthened, a strongly reinforced structure with all the modern advantages of line, steel, windows and doors. Moreover



Ward of the ...



View of the ...

being a former hospital site no provision had been made for equipment with the result that the original grounds became very congested as new buildings or departments became necessary to house the requirements of modern hospital practice.

In the late 1890s a very fine site at Blacks' Link had been offered to the Admiralty for the building of a new naval hospital. All the plans were completed and the site had been prepared when the financial crisis of the early 20s caused the scheme to be abandoned. In October 1944 Surgeon Captain Rowing strongly pressed for the reconstruction of the Blacks' Link property in lieu of returning to the Wharfedale site. The Commander and the Commander in Chief Staff, concerned and Admiralty approval was sought.

The prolonged occupation of two floors of the Queen Mary Civil hospital was considered to be unsatisfactory and a breach of the agreement with the civil authorities. It was proposed that the empty and isolated War Memorial Nursing Home on Mount Kellett should be used by the Navy as a temporary hospital while the new hospital was being built; a national cavity, to be expanded on increased requires. Such Admiralty approval was not forthcoming and the objection for even a temporary occupation of the War Memorial rapidly concerned with weathering and disintegration of the building. In November, 1944, the disadvantage of the two schemes was discussed at a conference with Mr Allen, Deputy Engineer in Chief, who had been flown out to Hong Kong. Surgeon Captain Rowing reluctantly agreed to abandon the Blacks' Link Hospital and to accept the War Memorial Home as the new naval hospital. Fresh estimates were required for the permanent, as opposed to the temporary, occupation of the War Memorial Home and after many delays the work of rehabilitation was commenced in April 1945. On 11th January 1949 the new naval hospital commenced its function, on the transfer of all cases from the naval wards of the Queen Mary Hospital.

The new naval hospital is situated on the ridge leading to Mount Kellett, the most southerly point of the main cliffs contains the well known Peak and High West. Perched 700 ft above sea level the L-shaped building faces southward, a single wing running north west behind the administrative end of the main block. The base and first floor are faced in granite, the two upper stories being finished in plaster. The long facade is relieved of severity by the three columns which support the upper stories and flank the main entrance.

The view from the hospital is magnificent. In front the ground falls away steeply to a series of deep valleys and ridges running down to the sea from the central watershed where steep grassy ridges and rounded irregular contours suggest a typical model of a hill. In a more level valley is a cluster of curiously prominent blue water the upper Aberdeen reservoir. The formation of this can be traced from Aberdeen Street where a forest of masts often marks the junk and barge apparently moored at the foot of a long Chinese pierhead where tiled roof and red painted masts look on the sea. Further south are glimpses of Deep Water Bay and the lower Bay separated by small headlands and dotted with gaily painted houses. Set in a deep blue sea are

the numerous islands round which the fishing fleet is set and out. A really wonderful view, varied, colorful and ever changing in contrast of light and shade as the sun passes overhead. Behind the hospital is the rather curious down to Peñíscola river; surrounded by the beautiful Peñíscola Moor. Beyond a wide panorama of the river; finally opening with islands of all shapes and sizes from crescent shaped, to much island with its central sandy beach bordered by outlying peninsulas, to towering fancies overlooking the mountainous coastline.

The hospital is not enclosed. It occupies a triangular site of nearly two acres bounded by the Monte Keltia and Hornos del Bando which meet at the apex of the triangle. A small passage separates the hospital from the creek. In front is a freshly turfed lawn, awaiting the spring planting of a hedge of *Dioscorea* which will continue behind round the Hornos del Bando boundary. Then the more distant segment of the grounds contains three beds with a hard tennis court. At the left a concrete colonnade, closed by the passage fence separates the hospital from the adjoining property. The ground floor entrance is on road and facing east upon this space. The ground floor wing contains the main offices of all quarters. In the main block are the pharmacy, main gallery, pay office, vaulting and some rooms, three rooms under quarters, R.R. medical store, dispensary and the entrance.

The main entrance is dignified and pleasing. A wide flight of granite steps, flanked by balustrade and palm leads to the spacious hall of the first floor. Opening off the hall are the main and wing corridors to the wards, the left main staircase, receiving room, restful study office and the chapel. On the floor are the medical, surgical and venereal wards, the hospital colony and the physiotherapy department. On the second floor are the officers' quarters and infirmaries wards, the offices of the Medical Officer in Charge, the Major and the Marine Bandmaster, consulting rooms of the medical, ear, nose and throat, and ophthalmology specialists, the dental surgery, and the laboratory, office, and X-ray, waiting room and the office occupies the room. On the third floor are the operating theatre, dressing room, anaesthetist and plaster room, the X-ray department and consulting rooms of the surgical specialists and of the radiologist. The patients' dining and recreation room, surgery, and X & A.I. shop will open off the top of the main staircase on this floor. Work is already well advanced and is expected to be completed by the end of April. This additional construction was decided upon after the initial view on the deck had been destroyed by fire in August 1943. The space allotted on the ground floor for the patients' dining hall etc. was converted to a series of steps and a fire, story, as the wing of the hospital was expected to have the displaced entrance.

The total number of beds is 110 divided between 54 wards a large of the original complex of the building as a nursing home. The distribution of beds—officers 10, bandits 6, medical 41, surgical 29, infirmaries 17, convalescent 19, mental 1. One main bed is an angled wall light with window within the patient's reach. Inside the light is rich in a rail with a chair against a light on the circular outside the ward, and an infirmaries in the duty cabin. Head

phones are provided for each bed and the nurse broadcast from the hospital N.R.C. can be switched on or off by each patient. The only loudspeaker is installed in the officers' day room. Suspended in each corridor is a group of three colored lights, red, amber and blue. They are operated from the Control Duty Office watchboard and can be switched on individually. This allows the nurse-in-charge. Each officer has his own page call. By ringing the watchboard the page'd officers are told by whom, or where, he is requested, a great saving of time and trouble for all. The canteen is a small hospital canteen serving here people appear to watch from the exposed balconies for long periods.

Bathrooms and lavatories shared upon a site, but a planning one of the nursing home construction. There are 11 long baths, at water closets 31 wash hand basins and four shower rooms. In the male wards. The majority of the toilets are of the single toilet water closet and wash hand basin type opening off what had been single or double private rooms. These toilet rooms are connected by permanently running exhaust fans opening at the upper end of a series of ventilation shafts to one of which each toilet is connected. It is necessary because the toilet rooms are inboard of the exhaust ventilators, an unfortunate architectural design especially now that the enclosed ventilators have to have their quota of permanent beds.

The patients' dining ground is an area of 8 acres adjoining the Hospital Road at the back of the hospital. It is part of the upper out-patient area of the Polksham convalescent. It is hoped that some leveling of the ground may be effected later and a boundary fence erected.

STAFF ACCOMMODATION

The Medical Ward can three rooms that for a married officer, the V & D's quarters, and flats for the Warrant Warrant and the nurse placement are all part of the hospital building. The Medical Ward can accommodate three officers. The V & D's men, an accommodation for the Commandant and 20 V & D's, the Marine and Nurses are accommodated in two flats in Peak, Warrington where the Medical Officer in Charge also has a flat. Peak Warrington is one hundred yards long and the best quarters. The naval bus service to Victoria calls at Peak Warrington and the hospital. Hospital transport is provided for the officers when coming on and going off duty.

The V & D's flats are accommodated in two single story buildings formerly the Peak Warrington situated on an Admiralty leased plot of land of some three acres which also contains the remnants of the Commander's hangar. About 20 minutes' walk from the hospital the grounds of the Peak Warrington are bounded later by Flaxton Road, from which the terrain runs steeply to the ridge leading to Mount George. The former site is on the crest of the ridge and enjoys a wide unobstructed view of the harbor and Keelson on one side, and of Polksham and the sea on the other side. The former site is just below the crest of the ridge and faces north west. Both buildings have wide verandas all round. The former site consists of a dining room and a day room of which the bar opens, three single rooms and a four bed dormitory.

Born as Captain W. R. CAMPBELL D.D.C. R.N. killed on the 2nd January 1945. Born on 1 October 1878 he qualified in 1900 as Doctor and entered the R.N. Medical Service as a Surgeon in 1902. He was promoted to Surgeon Lieutenant in 1910, Surgeon Commander in 1914 and was placed on the Reserve List with the rank of Surgeon in October 1926. During the First World War he was Surgeon Commanding on H.M. Ships *Wentworth* and *St. Albans* and was promoted to Lieutenant in 1916. He was also awarded the D.S.O. for a valuable service on H.M. Ships during the war.

Surgeon Commander L. M. GIFFORD, R.N. (1861) died on the 26th April 1945. Born on 9th 1861 he qualified in 1885 and entered the R.N. Medical Service as a Surgeon in 1886. He was promoted to Surgeon Lieutenant Commander in 1911 Surgeon Commander in 1917 and was placed on the Reserve List with the rank of Surgeon in January 1935.

Surgeon Commander C. V. THORP, R.N. died on the 11th February 1945. Born on 11th March 1868 he qualified in 1891 and entered the R.N. Medical Service in 1892 as Surgeon in 1892. He was promoted to Surgeon Lieutenant in 1904 Surgeon in 1910 and Surgeon Commander in 1914. Surgeon Commander Thorp served on H.M. Ships *Albatross*, *Albatross*, and *Albatross* during the Second World War.

Surgeon Lieutenant Commander T. A. B. WATKINS, R.N. died on the 26th January 1945. Born on 1st January 1887 Surgeon Lieutenant Commander Watkins was, at the time of his death, a member of the permanent R.N.V.R. and held up his name on the warship of the United States in 1939 as a Surgeon Lieutenant Commander. In 1939 and was awarded for a ship service in 1939 as a Surgeon Lieutenant Commander. During the war he was on the H.M. Ship *Albatross* and was awarded the D.S.O. for his services.

Surgeon Lieutenant J. M. DE BACA, R.N. died on the 20 April 1945 at H.M. Ship *Albatross* on the 20th April 1945. Born on 1st July 1904 he qualified in 1924 and entered the R.N. Medical Service as a Surgeon in September 1925. Surgeon Lieutenant De Baca had served on H.M. Ship *Albatross* during the 1930s.

Miss J. M. DE BACA, D.D.C. Acting Principal Nurse, Q.A.F.S.N. died at R.N. Hospital Chelsea on the 11th April 1945. After leaving, as long as College Hospital, Miss De Baca spent 1 1/2 years at H.M. Ship *Albatross* in 1920 and served at H.M. Ship *Albatross* and at H.M. Ship *Albatross* for 1 1/2 years, with the rank of Nurse. She was promoted to Surgeon in April 1945. She was awarded the D.S.O. on the 11th January 1945 and the D.S.O. on the 11th January 1945. She was awarded the D.S.O. on the 11th January 1945.

The First World War of 1914-18 was a time of great change and it was a time when the world was in a state of confusion and the world was in a state of confusion. The First World War was a time of great change and it was a time when the world was in a state of confusion and the world was in a state of confusion.

HONOURS AND AWARDS

Companion of the Order of the Crown

Posthumously by His Royal Highness the Prince of Wales.

Warrant: Surgeon in Lieutenant Commander C. J. GARR, D.D.C. M.B.E. M.B.E. M.B.E. R.N. V.R.

Member of the Order of the Crown

Warrant: Surgeon in Lieutenant C. J. GARR, D.D.C. M.B.E. M.B.E. M.B.E. R.N. V.R.

1. *Journal of the American Medical Association*, 1997; 277: 1039-1043.

1000

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Philosophy

1. *Journal of the American Medical Association*, 1997; 277: 1039-1043.

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[illegible]

1. *Journal of the American Medical Association*, 1997; 278: 1023-1028.

[illegible]

500% increase in the number of cases in 1998.

Journal of Management Education 35(1) 10-20

www.elsevier.com/locate/jmb

ESTERED FOR SHORT-TERM COMMERCIAL

Sample type	Sample location	Altitude	Sample size
Landfill (1992)	100 m	100 m	100
Water (1992)	100 m	100 m	100
Water (1993)	100 m	100 m	100
Water (1994)	100 m	100 m	100
Water (1995)	100 m	100 m	100
Water (1996)	100 m	100 m	100
Water (1997)	100 m	100 m	100
Water (1998)	100 m	100 m	100
Water (1999)	100 m	100 m	100
Water (2000)	100 m	100 m	100
Water (2001)	100 m	100 m	100
Water (2002)	100 m	100 m	100
Water (2003)	100 m	100 m	100
Water (2004)	100 m	100 m	100
Water (2005)	100 m	100 m	100
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Water (2009)	100 m	100 m	100
Water (2010)	100 m	100 m	100
Water (2011)	100 m	100 m	100
Water (2012)	100 m	100 m	100
Water (2013)	100 m	100 m	100
Water (2014)	100 m	100 m	100
Water (2015)	100 m	100 m	100
Water (2016)	100 m	100 m	100
Water (2017)	100 m	100 m	100
Water (2018)	100 m	100 m	100
Water (2019)	100 m	100 m	100
Water (2020)	100 m	100 m	100

TRANSACTIONS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA

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Table 1

[illegible]

STUDY 1

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

¹ See, e.g., *United States v. Egan*, 74 F.3d 1256, 1260 (9th Cir. 1997) (quoting *United States v. Galt*, 950 F.2d 1111, 1115 (9th Cir. 1993) (quoting *United States v. Galt*, 950 F.2d 1111, 1115 (9th Cir. 1993)).

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이와 더불어, 본 연구는 한국에서 가장 큰 규모의 기업인 삼성전자에 대한 연구로, 본 연구의 결과를 일반화할 수 있는 데에 한계가 있다. 또한, 본 연구는 삼성전자의 내부 통제 시스템을 분석한 것으로, 다른 기업의 내부 통제 시스템을 분석한 연구와 비교하여도 한계가 있다. 마지막으로, 본 연구는 삼성전자의 내부 통제 시스템을 분석한 것으로, 다른 기업의 내부 통제 시스템을 분석한 연구와 비교하여도 한계가 있다.

Journal of Democracy, 1994, 15, 1-11. doi:10.1111/j.1365-2575.1994.tb00111.x

Language	Language family	Country	Year	Number of speakers	Number of speakers in the country	Number of speakers in the world
French	Indo-European	France	1990	60 million	60 million	60 million
Spanish	Indo-European	Spain	1990	40 million	40 million	40 million
Portuguese	Indo-European	Portugal	1990	10 million	10 million	10 million

[illegible]

¹ National Laboratory for Air and Water Quality Research, 1-1-1 Higashi-Shinjyuku, Shinjyuku-ku, Tokyo 162, Japan.

Improvements in the design of the W_{eff} and W_{eff}^2 estimators and the W_{eff}^2 test for the null hypothesis of no effect are discussed.

Address	Support	Language	G. Group	WBC	LCF	to HHS	Index
Mount	W.B. Hill	in HHS	Control	1	30	Control	W.B. Hill

Acting Surgeon Lieutenant G. F. England M.B. Ch.B. (1914) (First Class)
 J. F. Duggan M.B. B.S. M.R.C.S. L.R.C.P. to H.N.S. "T" (1917) (1st Class)
 G. M. Chubb M.B. B.S. (Lond.) (1918) J. M. Fisher M.B. B.S. L.R.C.P. (1918)
 (First Class) D. M. Hunter M.B. B.S. M.R.C.S. L.R.C.P. (1919) (First Class)
 Acting Surgeon Lieutenant (R. F. J. F. Woodford L.D.S. to H.N.S. "T"
 R.N. School of Hygiene.

WARDMASTERS

Wardmaster Lieutenant W. J. Walsh to R.N. Hospital Plymouth.
 Acting Commandant Wardmaster P. D. Jervis to R.N. Hospital Haverford
 Hospital to H.N.S. Raleigh. G. F. Webster to R.N. Hospital Plymouth.
 Wardmaster Wardmaster A. H. Woods to R.N. Hospital Devonport.
 Temporary Wardmaster Wardmaster J. T. L. Rowe to R.N.S. H.M.S.

QUEEN ALEXANDRA'S ROYAL NAVAL NURSING SERVICE

Acting Senior Sister M. M. de B. C. Riddell L.R.C. to R.N. Hospital Plymouth
 February 1918.

Nursing Sisters M. S. Hutchinson Sister to R.N. Hospital Malta. S. Watson to
 R.N. Hospital Portsmouth. L. B. Nicholson to R.N. Hospital Portsmouth. R. B.
 Williams to R.N. Hospital Plymouth. G. M. Griffiths L.R.C. to R.N. Hospital
 Plymouth. S. A. Kemp to R.N. Hospital Devonport. A. Thompson to R.N. Hospital
 Devonport. M. J. Morgan to R.N. Hospital Devonport. J. J. Cook to R.N. Hospital
 Plymouth. G. Peck to R.N. Hospital Devonport. M. L. Graham to R.N. Hospital
 Devonport. R. M. W. Riddell Sister L.R.C. to R.N. Hospital Devonport.

ADMIRALTY FLEET DOCKING

NOTE.—Medical—Examination of Officers being on the 20th of MARCH. President
(M.D.C. 1918/20—M.F.C. 1918/20)

All officers bring on the books of H.M.S. President, applying there referred to
 in paragraphs 2 and 3 and as before be medically examined at H.M.S. President with A.P.O.
 1111/20 of the Admiralty Medical Board. Arrangements for medical examination should
 be made with—

The President, Admiralty Medical Board
 (Quart. Admiralty, Admiralty)
 St. James's Place,
 London, W.C.2

(Telephone No. 9550—M.D.C. 1918/20)

1 Officers before the rank of Captain (Royal Navy) will need all both will be
 medically examined at H.M.S. Royal Arthur, Devonport, with arrangements for
 medical examination should be made with the M.D.C. 1918/20—M.F.C. 1918/20
 (Telephone No. 9550—M.D.C. 1918/20)

2 In exceptional circumstances, officers serving in Scotland the medical
 examination may be undertaken at the nearest Royal Hospital by arrangement with
 the Medical Officer in Charge.

(A.P.O. 1111/20)
 (M.D.C. 1918/20 is cancelled)

NOTE.—General—Particulars of Examination of Officers R.N. and R.M.
(M.D.C. 1918/20—M.F.C. 1918/20)

Prescribed that on each round of the Medical Examination of Officers (Royal Navy) and
 (Royal Marines) with A.P.O. 1111/20 the medical and dental records may be deposited with
 the dental records of officers will be kept up-to-date under the provision of A.P.O.
 1111/20

(A.P.O. 1111/20 and 1111/20)

Medical—Various and General as to
(see A.P.D. 224457)

1938.—(R.M.)—R. M. 1938—Medical Aspects of Airborne Warfare—Distribution
(M.D. 12 P. 124457—1st Nov. 1938)

R. M. 1938 Medical Aspects of Airborne Warfare will shortly be issued in the following form:—It is distributed from the Royal Naval Stores Depot, Park Royal, London, to all the following:

Flag and Naval Officers in Charge	1
Surgeons	1
Crews: Fleet Captain and Light Fleet Captain	4
Destroyers and Submarine Depot Ships	4
Naval Landing and Repair Ships	4
Naval Hospitals	2
Destroyers (other than) Submarine Destroyers, Frigates, Minors, and Motorships	1
Naval Air Stations and Training Ships and Establishments	4
Naval Medical Schools	16

It is intended a personal copy is to be sent by express Medical and Dental Officer (M.D.O.) to the person to be distributed from the appropriate distribution authorities. In such supplies will be made for the purpose.

1939.—R. M. 1939—Medical History Documents of R. M. Personnel applying to enter the R. M. N.—(M.D. 12 P. 124457—1st Apr. 1939)

Before the entry of R. M. personnel to the Royal Naval Stores Depot, they are to be approved by the Medical Officer (M.D.O.) in the Royal Naval Stores Depot, Park Royal, London, to be issued to the person to be distributed from the appropriate authorities. In such supplies will be made for the purpose.

2. In future, therefore, a record of medical history is to be forwarded as an enclosure to each application for entry. Details of the Royal Naval Stores Depot (M.D. 12 P. 124457)

1939.—General—Various and General—(M.D. 12 P. 124457—1st Apr. 1939)

In future, Medical Aspects of Airborne Warfare will be issued in the following form:—It is distributed from the Royal Naval Stores Depot, Park Royal, London, to all the following:

3. One copy of the Medical Aspects of Airborne Warfare will be issued to all the following:—(M.D. 12 P. 124457)

1939.—General—Various and General—(M.D. 12 P. 124457—1st Apr. 1939)

The Central Medical Records Office (M.D.O.) is to be issued from R. M. Hospital, London, to the Medical Department, Admiralty, London.

4. In future, the date of the issue of all reports of medical examinations and reports will be issued to the person to be distributed from the appropriate authorities. In such supplies will be made for the purpose.

The Medical Department—General
(M.D. 12 P. 124457)

Admiralty
Queen Anne's Warehouse
10, James's Park
London, S.W. 1
(M.D. 12 P. 124457)

1415.—Prison—Army Service (Army Officers)—Efficiency Medal

[S. 170, 1415/48.—10 Apr. 1949.]

Prison Service (Army Officers)—Efficiency Medal for Prison Service Officers (Army Officers).—1. NO. 1415/48 (Army Officers).

2. The Prison Service Officers of the Prison Service (Army Officers) are recommended for consideration for the medal as Prison Service Officers during 1949.

3. The Prison Service Officers of the Prison Service (Army Officers) are recommended for consideration for the medal as Prison Service Officers during 1949.

4. The Prison Service Officers of the Prison Service (Army Officers) are recommended for consideration for the medal as Prison Service Officers during 1949.

1416.—Army Service—Army Officers—Efficiency Medal—Appointment of Prison Service Officers

[S. 170, 1416/48.—10 Apr. 1949.]

The Prison Service Officers of the Prison Service (Army Officers) are recommended for consideration for the medal as Prison Service Officers during 1949.

2. The Prison Service Officers of the Prison Service (Army Officers) are recommended for consideration for the medal as Prison Service Officers during 1949.

1417.—Prison—Army Service (Army Officers)—Efficiency Medal—Appointment of Prison Service Officers

[S. 170, 1417/48.—10 Apr. 1949.]

All officers who are recommended for consideration for the medal as Prison Service Officers during 1949 are recommended for consideration for the medal as Prison Service Officers during 1949.

3. The Prison Service Officers of the Prison Service (Army Officers) are recommended for consideration for the medal as Prison Service Officers during 1949.

[S. 170, 1417/48.—10 Apr. 1949.]

[S. 170, 1417/48.—10 Apr. 1949.]

1418.—Medical—Photographic Survey of Prison Service Officers for Classification of Prison Service Officers

[S. 170, 1418/48.—10 Apr. 1949.]

A code for classification of Prison Service Officers for consideration of the medal as Prison Service Officers during 1949 is recommended for consideration for the medal as Prison Service Officers during 1949.

2. The Prison Service Officers of the Prison Service (Army Officers) are recommended for consideration for the medal as Prison Service Officers during 1949.

1419.—Medical—Officers of Prison Service (Army Officers)—Efficiency Medal

[S. 170, 1419/48.—10 Apr. 1949.]

The Prison Service Officers of the Prison Service (Army Officers) are recommended for consideration for the medal as Prison Service Officers during 1949.

(2) Those who have acquired a special knowledge or gained the experience of an individual who has improved in their connection with Gilbert's work.

(3) Those who have:

- (a) p. 1700 (2) and (3) awarded
- (b) p. 1700 and 1700 (1)
- (c) p. 1700 (2) and 1700 (3)

1700—(Papers)—Gilbert's Medal: 1700—Gilbert's Medal: 1700—REPORTS
(M.D.C. 1700/1700—27 May 1700)

There will be an award of the Gilbert's Medal (1700) as an appreciation for service which has been rendered to the world at large and in the Appendix to the Navy List December 1700 page 1700. It has accordingly been decided to reserve the medal for 1700 and to hold it over until next year or any subsequent year when its national award will be given if it is considered possible to do so.

2. Award of the Gilbert's Medal (1700) will be considered as a result of reports forwarded to the Medical Research Council on 1700/1700 with the regulations.

3. Applications for consideration of the award should reach the Medical Department not later than 31st March 1700 containing references of work done and supported if possible by documentary evidence.

Table 1

From 1980 to 1982, feeding trials in Germany and other European countries (e.g., in the Netherlands) have shown that the feeding of *U. pinnatus* to rainbow trout, *Salmo gairdneri*, and Atlantic salmon, *Salmo salar*, is not harmful to either, and that the fish fed with *U. pinnatus* are not contaminated with harmful substances. Several studies, however, and also the results of the present study, have shown

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The MARVEL system should be employed for Manuscript preparation. Manuscripts being arranged in alphabetical order at the authors' convenience and in chronological order in the MARVEL system will save the need for a separate chronological arrangement of a publication should be noted by giving the author and year in the title. (See Table 1) MARVEL is based on the following:

All communications should reach the Editors on or before the first of the month preceding the date of issue. Unless clearly specified, they should be typed on one side of sheet and sent in triplicate and they should be addressed to the Editors, Journals, or any Special, News, Minutes, Services, Book Reviews, etc., Committee, General House.

The Research on well-being research, does not have a systematic data system.

The subcommittee is also "not concerned [language indicated] payable on 1st January of each year" but should it subcommittee "wish to commence at another quarter it may do so by payment at the rate of, say, per cent." All subcommittees are payable on advance. Single copies can be obtained at 10 pence. (Copies or postal orders for subcommittee should be sent to: Lloyd, Bank Ltd. and be made payable to the Manager, Journals, at Lloyd, Bank Limited, Liverpool. (Wholesale House, Liverpool). Contact Hants for details of all correspondence, including to subcommittee no. 40, should be addressed.

The payment of subscriptions by banker's order is recommended as it reduces the number of the necessity of forwarding a cheque each year and simplifies the keeping of accounts.

2007. *Die Internationale des Bergbauingenieurwesens in der zweiten Hälfte des 19. Jahrhunderts*. Berlin: Deutscher Bergbauingenieurverband.

16. 2000年12月1日，甲企业向乙企业销售一批商品，售价为10000元，增值税税额为1700元，该批商品的成本为6000元。甲企业于2000年12月10日收到乙企业支付的货款，并开具增值税专用发票。甲企业应确认的收入为（ ）元。

Takamizawa	Kawabuchi
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Journal
of the
Royal Naval Medical Service.

Articles

ROYAL NAVAL HOSPITAL, MALTA

By

SERGEANT-MAJOR-ADMIRAL G. D. BROMFIELD, C.B., O.B.E.

As far as is known, there is no history or account of the Royal Naval Hospital, Malta, since it came into being for the use of the medical staff, and wounded and it is thought it may be of interest to some medical officers to read a short account of the history of the establishment.

The late Sir John Bickel was admitted to the Order of the Knight of St. John in 1876 and on 1st October, 1888, he was appointed as Captain to the gallie, *San Giuseppe*. His career appears to have been a distinguished one. On 1st January, 1881, he was appointed Ambassador of Obedience to the Pope and the Grand Master of Livorno bestowed on him the *Sommato*, or the Grand Patente of Obedience and the Dignity of a Grand Cross. On 18th May, 1872, after distinguished service abroad, he returned to Malta and it was then that Sir John Bickel conceived the idea of building himself a country residence with a Palace and Villa on the Salubrious—just as much for his pleasure as to benefit the society by the expenditure such a project involved. The site was acquired by the Family Bickel from Vassallo and Melchior Galea on a perpetual lease with the annual burden of 14 Bunde and 5 Tare (about 10 s.) towards the Salubrious. The Salubrious. The plans were drawn up by the Maltese Architect Lorenzo Galea. The Prior Bickel was not destined to see his Palace more than begun as he fell victim to the plague and died on 24th June, 1875. He had, however, managed as early as 18th June, 1871, to get himself in the Treasury and as a result he was married to his nephew, Sir Henry Bickel besides other property, the estate estate consisting of garden, house, etc., situated on the Island of Malta called the *Punta San Salubrious*, the buildings and the Palace (about which up to now) we have heard and heard on condition that he might not dispose of the property without the consent of Cardinal Bickel or the Family of the House of Bickel."

It appears that some time after the death of Commander *Fra' Vassallo* the estate came into possession of the *Barliff Fra Giovanni Agostino* Count of Schenbourg, who bought it presumably with the consent of the House of *Bucks*. Independent of this earlier death on the 11th September 1738, the property was again acquired by a *Bucks* as it showed in the 'Inventories' drawn out under protest at *Villa Buda* on 18th December 1738 by *Fra Giovanni Buda*, a nephew of Commander *Fra Vassallo*.

Among the distinguished persons who made use of the *Villa Buda* are *Monte Gio Francesco* (baptism appointed Inspector in 1730), *Monte Gio Francesco Solerino* (appointed Chaplain to the Order in 1731), *Monte Paolo Francesco* (another Inspector who served at Malta on 24th December 1742), and who was allowed to use the *Villa Buda* to avoid quarantine at the *Lazzaretto*.

When the Order of St. John obtained possession of the Islands of Malta and Gozo, the Grand Master undertook to look after foreign interests. Corsairs were appointed from the Knights, but as England had no Knights, John Drake with was appointed Consul and it seems he lived at *Villa Buda*. During his period of office he continuously caused trouble between the Order and England and he was relieved of his appointment by George III on 16th April 1751, but continued to live on the Island.

In May 1751 *Chevalier Fauri*, the agent of *Catherine II* of Russia, requested that *Villa Buda* should be converted into a prison, store for the Russian Fleet. The Grandmaster *Baklan* refused this request and also refused to allow the Fleet of the Order to accompany General *Kolomontsky* on an alleged expedition to the Levant, as he detected a stratagem to leave Malta undefended. In 1758 the King of Sicily desired to make a garden (called *Buda*) into a new Lazzaretto. This project apparently did not materialise and from when the historian *Castagna* says it would seem that for some time after this the Palace was abandoned. This was probably during the French invasion for from the same source one learns that at the rising of the Maltese against the French some country people stationed in the neighbourhood of *Barraka* to prevent French reinforcements landing entered the Palace on the night of 18th November, 1798 and removed every thing and whatever else, could very easily. The following night the same Maltese wounded *Bogachet* General before *Stonard* and the *Adjutant Richard* also were investigating the occurrence of 18th November.

During 1798 and later, a few wealthy Maltese acquired plots of land in the neighbourhood of *Villa Buda* and on the land there built summer residences—*Casa Brava*, *Villa Porcelli*, the Hospital Chaplain's residence (occupied now by the Surgeon *Reverend*) and other buildings around *Bigha Steps* are evidence of this.

After 18th September 1800 Malta came under the administration of Great Britain and naturally became a Naval Base. The sick and wounded of the navy were treated in a building known as *Armata* in Valletta and also were accommodated in special wards in the General Military Hospital, *Valletta*. The stratagem appears to have been carried out by the Army at

These results show that the presence of a single gene is sufficient to induce the formation of a new brain region, the *Agouti* locus.

When it was established that Ferguson was occupied, eight attempts to find an area on the FBI's file, following letters about it was underway, very, about two after. Finally, control of the I-level that Nelson recognized the who he was was made available and subsequently also for a newspaper, *Nashville Tennessean*.

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5th Avenue, New York, NY 10018

It is the particular character, the essential aspect of the 'being' of things under a so-called 'essence' which is subject to an influence or an influence from the 'being' of things under a so-called 'essence' and not vice versa.

It appears that the effect of the β parameter is to increase the variance of the distribution of the β parameter, which is consistent with the results of the Monte Carlo simulations.

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University of California, Irvine, Irvine, CA 92697

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11. *Journal of the American Medical Association*, 277, 1996, 1033-1037.

www.mindgarden.com

Age Group	Percentage
18-29	45%
30-49	55%
50-69	65%
70+	75%

The author wishes to thank Dr. J. H. W. Lam, Department of Biology, University of Hong Kong, for his critical reading of the manuscript.

A house No. 173 Grande Rue Valentin was hired at £20 a year as a residence for the surgeon in charge of the hospital.

Lord Nelson, in his letter of 21st December 1805 directed Lieutenant William Pakenham late Resident Agent of Transports at Malta to take charge and employment as Governor—under charge of Mr John Gray, Surgeon—of the new hospital established at Malta by the Lord Commissioners of the Admiralty.

The actual date of transfer to the Grand Prince from the Arsenal at Vittoriosa has not been established but from the request for the sale by public auction held in Grande San Cristobale for condemned hospital stores, the latter building continued to be used as a Naval Hospital until the early part of 1812.

In the Manuscript Department of the British Museum Library London, the following documents are preserved.

Estimate of the work, etc. in the Hospital La Valette 1801-1805. No. 51601 f. 160. Vues et plans de l'Hôpital Anglais maintenant à Rome n°10. Ospedale de La Valette, dat. 1.5.1802 et 2.12.1800 and No. 49628 ff. 125-126. The Hospital referred to may have been the Old Grand Prince or the Military Hospital at Valletta.

The Commissioners of the Admiralty to Lord Robert
Admiralty House

20th March 1806

My Lord

The Right Honble Lord Viscount Nelson having transmitted to us a letter which his Lordship had received from the Sieur Perrennot of the Fleet under His Majesty's command who had been sent to Malta for the purpose of procuring a Naval Hospital at that Island representing that the Palace at Buzary in the said Island is well situated for a building of the above description in which several Lord Nelson perfectly agrees. We send your Lordship herewith a copy of French maps and notes and request that should think may be good for the Palace of Buzary to be given up to the Commissioners for taking care of such and sundry matters for the purpose of being converted into a hospital for the use of the Officers, sailors and others belonging to His Majesty's Fleet.

We are,

- Y^r L^{ty} Viscount
- Y^r Transmissions
- Y^r Obedience

Lord Robert to Sir Alexander J. Dal

Thursday March

20th March 1806

Sir

I am directed by Lord ROBERT to transmit to you the enclosed copy of a letter from the Lord-Commissioners of the Admiralty and also of an Order in His Majesty's Council of the 17th under the Command of Your Admiral Lord Viscount Nelson relative to the above premises of the Palace of Buzary at Malta for a Naval Hospital.

His Lordship desires that you will take the subject into your serious consideration and if there should not appear to you to be any great objection to the execution of aforesaid project, the Palace of Buzary for a Naval Hospital that you will take the necessary steps for carrying it to that use. For the additional buildings proposed by Sir Joseph, are not to be undertaken until a Plan and Estimate of the expenses shall have been

Benjamin Byrnes was the son of Samuel and Elizabeth Byrnes and was born on 25th July 1813, in the parish of Christ Church, Barbados, where he was baptised on 26th December 1813. The name Byrnes is frequently found in the Byrnes family which can be traced in Barbados from 1678 to the present day. There was a Benjamin Byrnes, son of William and Mary, living at Christ Church parish, Barbados, in 1710 when he was aged 4, a Benjamin Byrnes has an unlisted ancestor in St. Michael's Cathedral, Barbados, and a Benjamin Byrnes lived in Barbados during the present century. Perhaps the future surgeon of the *Beagle* came from the colony to Britain, for his medical studies but his school remains unknown. Though the report of his death in *The Times* states that H.B. has never to be found in the registers of any English hospital, or Irish University of the period. The first definite information about him in England is an entry at the Admiralty in the Assistant Surgeons Register that he obtained his Landing Diploma on 18th March 1835. On 26th May of that year his membership was recorded at the Royal College of Surgeons in England and on 26th September 1835 he joined the apprenticeship as an Assistant Surgeon in the Royal Navy and was placed on the books of the Faringham apprenticeship, next day.

Four weeks after his appointment to the Faringham he was directed to join H.M.S. *Beagle* on the long commissioning. She was fitting out under the command of Pringle Storer for the survey of the coasts of South America northward of the Rio Plata in company with H.M.S. *Adventure*, Captain Philip Parker King. Thus began Byrnes's association with a ship which was to be his home for eighteen years.

When King, from the *Beagle's* surgeon, was recalled in July 1837 Captain King as senior officer of the expedition appointed Byrnes acting surgeon and when introduced in November, 1838, there occurred another change which was to affect him favourably. The command of the *Beagle* now passed to Captain Robert Fitzroy, popularly remembered for his remarkable forecast in Byrnes he was a good friend and Byrnes's new position as acting surgeon brought them into frequent contact.

During this commission, which formed the best voyage of H.M.S. *Beagle* in South American waters the ship surveyed Patagonia, Terra del Fuego and the channels adjoining the Straits of Magellan, and the island of Chile; the diaries are preserved in the King's *Geological Descriptions of the Coasts of Eastern and Western Patagonia* (1845) and in the first volume which he contributed to the later *Expedition*. Byrnes took an active part in the survey and it was probably then that his name first appeared on a chart. On 17th April 1839 he went off in the schooner *Adelaide*, under the *Beagle's* having volunteered to join in an expedition of the *Magellan* and *Bartholomew*. He was away till 25th June, when he rejoined the *Beagle* at Port Colnett having had no less 41 deaths or accidents. Geological and other specimens collected by Byrnes on this expedition are in the Geological Society's museum and those of the Zoological Society in London. On 24 December 1839 he again volunteered for a cruise in the *Adelaide* to survey the shores of the Gulf of Penas, particularly the River San

Fishes in St. Quentin's Sound, the openings behind Newer Island, and the Queen Anne Islands where the Hager had been wrecked during Spain's expedition. The region has been well named by the Spaniards the Gulf of Surcure, it must have been turbulent during their expedition that Bryson's men were given to lose of its name, except lands which were Bryson and Bryson Island. The Cape, sometimes known as Bryson Point, is in Lat. 47° 14' N. and Long. 79° 14' W. about four and a quarter miles north-northeast of St. John's Island. It is the northern extremity of Isla Guayula and forms the western extremity point at the northern end of this Palen Channel which runs north into the Gulf of Papay. "Two miles long, leading to a gulch on the end of Cape Bryson with a clean but narrow passage between rocks also named after him. The quality of the water with its rocks and breakers, can only be fully understood by one who has traversed them; but something of their terrible nature was conveyed to Captain Mifflin in his description of the area named the Milky Way in his *Seaboard Along the Coast of the World*. Bryson Island is about two miles eastward of St. John's Island and abounds with birds on its north coast, only in small numbers with local knowledge. It is by the expedition to the Barbours and Cooks Channel. The last expedition, continued till 24th May, 1833 when they reached the Hager at Port Pagan. In the mid of October that year Bryson's first commission was over. There followed an interval on half pay, during which he lodged modestly at T. Foreign Place in the New Kent Road, a district of London which was to be his domestic background for the remainder of his rare intervals when there he continued through the winter and spring for his recuperation, as Surgeon, which he passed on 14th July, 1833. Promoted was to be also in 1833, however, and four days later he again joined the Hager for a new commission, as her assistant surgeon. He was well but had been discouraged for he found himself working under surgeon Robert McClelland, a man already known for his ill humour and petulance, but there must have been some compensation as I thought that the Hager was now more to be completed on the finance and in the waters where Bryson had already had such a limited acquaintance. The full story, was to have the second volume of the *Seaboard* written by Captain Fife, and was to add a third volume to the series, this time by Charles Murray, giving it a world wide edition.

The second voyage of the Hager opened a chapter in Bryson's life which might have altered his whole future. For Charles Murray had joined her as Captain Fife's agent. The unknown young naval surgeon, then still playing experimentally with the idea of becoming a poet, was to bring the little ship into the limelight of a publisher as good as to endow that work of his which would the world over have to follow by the poems that have Murray's name. The baggage included a supply of pocket books, eighteen of which were to be crisscrossed with his rough pencilled notes during the next five years but as he viewed his first accumulation in the chart house and conceived a dream from a dream to die, but to be there as his horizon he could make him demand that he would live to write. The voyage of Hager has been by far the most important event in my life and has determined my whole career.

During the summer of 1831 the ship had been busy getting its stores for her long voyage and such on the water all was ready. Her medical stores included various antivenereal such as pills, dried apples and lemon juice, at the last quality and in as great abundance as we could then want, we also had on board a very large quantity of butter and tinned corn, several sorts of vegetables and soup and from the Medical Department we received an ample supply of antiseptics and articles useful for preserving specimens of natural history.

On 11th December Darwin settled on board and, beginning to know his companions. Dined at 12 with the *Whitby* crew and then with Byrnes and Holmes' visited to Watson Bay. The sea here presented a most glorious and sublime appearance. The coast a quarter of a mile it was a confused mass of breakers and from the white covering of foam looked like so much snow. Each wave as it dashed against the rocks threw its spray high on the hill and a white mist arose. To perfect the scene a rough squall was sweeping from a rock to up, out, over dense wreck. He was still confident with our returns. On 13th December he took for another walk with them, a long bridge through forested rain. The people had sailed on the previous day but had had to put it again owing to the rain that there is had so much rain and which had made them so much distress. The sailors declared that a black out must be experienced under a heavy sky, for this was not the first attempt to sail but by the 13th conditions had improved and Darwin, Byrnes and H. J. Selwyn² the talkative and lieutenant, were having shooting matches with the rifle for number heads of wren to be paid for at the Madras Islands. Four days later the *Beagle* sailed and as the new voyage opened, Darwin lay to the southward but they passed on via the Llaneros to the Cape Verde Islands. Here Darwin was frequently ashore, once he landed with McCormick but he liked him no more than he did many others in later life and when the surgeon, on added himself home towards the end of April, 1832, Darwin described it as an hour and a political change. For Byrnes the change meant a return to the position he had held during the previous commission, for Rear Admiral Baker now appointed him Acting Surgeon of the *Beagle* more more a capacity in which he continued to serve for the remainder of her long exploration. As 1832 slipped by they moved across the Atlantic sailing briefly at Fernando Noronha and then coasting South America—Baker, Don Thomas Lopez, Thomas Arce, John Blake, Thomas del Fuerte, Byrnes's secretary associated with his responsibilities for his own collection of minerals and 4 September, 1834 when William Kent joined in the journey. Meanwhile the tropics and the forests had taken their toll. Within a month of Melville's such a prudent withdrawal Byrnes had experienced with one of those mysterious lesions which attacked ships on the African and Brazilian coasts and was now almost certainly to die of yellow fever. It caused the death of two women and a mulatto, Charles Modyke, a man of

²This was not the commanding officer but his assistant, John Lee Selwyn, 1812-1860, B.M., and Assistant Surgeon of the *Beagle* who succeeded him for the greater part of her west coast mission and was present for the visit of Alfred in 1837.

³Wortham, James Selwyn, 1818-1859 later Admiral Sir James Selwyn, R.N.R.

Lord Byron's 'Mary' who had gone ashore shooting as a courier up the Mueron River and on board on board some days later. He remained with the best medical advisers at Bahia and others with at San de la Cruz and he had the satisfaction of knowing that the boat had been cleared for his patients.¹ Captain Perry tells us that the unfortunate lackness of Mr. Byron on that and indeed most occasions when his skill and attention were required will never be forgotten by any of his shipmates.

The year merged imperceptibly into 1815 with visits to the Falkland Islands and the adjacent mainland of Patagonia, up to Mount Aconcagua and down to Tierra del Fuego. Now Byron's Day 1814 found them at Port Duro in northern Patagonia but now they sailed through Magellan and remained in those desolate waters many months, visiting the island of Ulster and its great corn-crops as well as many of the Foyers but with a little trouble the coast was reached on the last of June. In Port Duro a replacement of a boat which carried the St. Andrew's Channel and her G. Byron's Small in Tierra del Fuego then approached shore to that apparently magnificent scene of glaciers and white standing in the bay. Byron was able to see at one time as many as fifty floating masses of ice. The landed on one in which was embarked a great block of granite from which he clapped a specimen for Darwin, who discusses the whole matter in the third volume of the *Journals*. But Byron could not cheat himself for long on such expeditions. By the protracted summer and the climatic conditions in the Foyers Channel were beginning to make himself into the hands of the ship's company. Polakoff's 'taken shore-often began to suffer from stuff in those expeditions shortly after leaving the vessel for other late taken in can be seen in the account of Cook's and Vancouver's voyages but its verities in the hands of the people I found a remarkable. Not only but it exterminated the indigenous population but in this day with a great spirit in the gathering of the concrete in Argentina, a hard point settlement of Ushuaia on the Channel. On 17th June 1814 the people's names George Rowlett, a collected at sea after a prolonged illness which was probably phthisis. He had been Byron's and Darwin's companion when on many occasions and as he lay dying in bed in the cold, many waters up of the River. Rowlett may have recalled the early, early days of the voyage when together they had landed at Porto Praya in the Cape Verde Islands and having disembarked with an American merchant, mounted on horse and travelled through the forest country-side to the fruitful valley of St. Martin's collect flowers and fresh water shells for Darwin. Here with them he had a landed in Port-au-Prince a small fort and collected 'landed at the foot of a high blue precipice through a thick narrow and steep in his boat at its very end selected the plants, using their left hands above the dark green of his orange grove, as they knelt at a 'bush'. On a high open space a concourse of black men, women and children had collected everything in and as did not follow by their hearty laughter. On Byron may have remarked him of another rate in Polakoff, 1812, when the three of them had gone to St. Domingo in the Cape Verde

¹ Mary Chubb told Darwin, when returning with Byron on a continental tour and in discussed in her journal *The Byron's Voyages* (London, 1814).

and had had there a lot of the troubleless waters of those barren hills where only a stunted mesquite relieved the dreary coloring; as Rowlett ate the new mango natives of the People in any town recalled the most hospitable Portuguese who treated us most kindly and feasted us with a most substantial dinner of mutton roasted with various sorts of herbs and spices and Orange Tea. Here on these returns to Pavia they exclaim: "20 young black girls dressed in most excellent taste" who when they approached suddenly all turned round and crossed the path with their hands, they sang with great energy a wild song, looking down with their hands upon their legs. Then they threw their hands "vacion" which were received with screams of laughter and a retelling of the song of their song.

Shortly after Rowlett's death the People sailed north along the Pacific coast and in August reached Valparaiso. Darwin visited Santiago and did much relief and climbing in the central Cordillera of the Andes coast east of the capital. He appeared to be in excellent health but it was clear that there occurred the illness to which reference has already been made. On 10th September 1831 he wrote: "During this day, I felt very unwell, and from that time to the end of October did not recover. He had severely crossed the Andes but had not apparently suffered from mountain sickness, created my fatigue, even after this date he was able to continue his collection of specimens till the 21st when they turned back to Valparaiso. He recalls that they reached the port on 17th September and that he then remained in bed in the house of a school friend—Mr Corfield. Darwin attended his illness by drinking Oja Oja, "a very much new made wine wine" and Wyron treated him with Calomel.¹ He attended him, where till the end of October a lady (the People was riding at anchor in the bay) passing ship, clearing, and taking in fresh water.

The months that followed were occupied in further cruises off the Chilean coast, on 10th July 1834 they reached Calico, the port of Lima, and in the north as, as, weeks were able to enjoy something of the beauty of the island was regular. But the four years in South American waters were ending and after a visit to the Galapagos Islands, the People sailed westward to Polynesia. Following a brief period at Tahiti she reached New Zealand for the last Christmas they were to spend abroad. Remains of Hymenite at 1831 were already changed by the Christians of St. Martin's (St. Mary's) Cape Horn, as Port Brown in Patagonia, and at and on all the points of the North on the Chilean coast. And now the People began the last leg of her long journey home—dividing. Reaching Island, Newmarket, and the Cape they reached home a Bay at the end of May 1838 but some months were still to pass before they dropped anchor at Valparaiso on the 2nd October. For the course took them to St. Helena and then across to Brazil again before they continued northward past the Azores.

¹For reference to Don Lady, before Charles Darwin and the Voyage of the People (1844) p. 107, and a letter to his sister. No better explanation of this gift could be found (see also) although Darwin's health has been the subject of much recent analysis. Psychologists have played a considerable part and it was his recognition of the association between his complex, "acute" through, and developing "acute" psychosomatic that influenced him in his retirement to Down and the regular life he led there.

The *Beagle* paid off at Funchal on the 7th November 1846 and Lysons looking back on these eventful years may well have felt a certain satisfaction. His interest in natural history had been greatly stimulated and he must have acquired a good working knowledge of geology under Darwin, which might serve him well in the future. For the moment, however, all that stood before him was a raft of half pay and a return to Foreign Place where during that winter his friends heard the story of the past five years and tried to picture life in that utopian little community of seventy-one souls frequently cut off for long periods from all human contact and with no more supplies than could be supplied by Carrington. The ship's fidelity as the major instruments of leading this role of some shooting, occasional sickness imposed by the uncertainty of returning to the ship, then followed Lysons as he described a day in October 1845 when a party had landed at Bahia, Estancia, south of Torres, Arica, and while Darwin and Captain King went in one direction to geologise he had gone in another to shoot. How the wind came up and nightfall as they were stranded while the fog lay thick in the bay with waves breaking over her then suggestive night colours and hundreds, consisting of some small birds, two gulls, and a large hawk which was found dead on the beach. The silence of this left by the tide, the cold of the second night with the wind blowing off the shores of the Bahía de Veraguas, and their enjoyment of the "harmonies of the *Beagle* when they were at last able to return. The Old Karl Reed seemed very odd and comfortable that night as he told the story.

Or he rapped them with tales of the *Beagle* Pargues, York Minister, Jensen, Intanen and Kien Pargue Dabert brought by Captain Fitzroy to England in 1846 for their education and now returning to the *Beagle* to Paria del Orinoco "to enlighten their imaginations in Christian morality and the use of tools, but who could not be seen from their flaring propensities and in general a profound disappointment." Lysons had become "their most enthusiastic friend" and it had been from him that Captain Fitzroy obtained his account of the Pargues expeditions and his ethnological descriptions of the same Indians, the natives of the western shores of Patagonia and Chile, as well as many details of the geology, flora, and fauna. He had generally accompanied the captain when for the pargues and being a good shot, he was also employed as a scout when they landed among potentially hostile natives as well as for protection from lions and pumas. During this period in Torres del Pargue these native parties had run low and it was under his direction that they had replenished their stock with wild feline and canid natives from the shores of the channels.

Lysons was not left for long to enjoy domesticity or to brood on his miseries and his financial difficulties. Christmas 1846 was gladdened by the news which reached him three days earlier than after so many years of holding the wrong rank of surgeon it was now to be officially confirmed. By the standard of the time he had been fortunate. For his relatively rapid promotion had been wanted by, Captain Fitzroy who had written of him when the *Beagle* paid off that he "strongly recommended Mr. Lysons as an *Assistant Surgeon* of upwards of eleven years standing nearly the whole period of which has been employed in actual service." So William Burnett, the Director General, had made a

For the first time, a systematic, long-term, and open access to the monitoring of the Antarctic and Subantarctic archipelagos and offshore regions from 1940 to the present has been made possible by the use of satellite remote sensing data. In this paper, we have first shown that the use of the Advanced Very High Resolution Radiometer (AVHRR) for the assessment of Antarctic sea-ice properties. We observed that the sea-ice and snow-ice, as a melting phenomena, began to disappear from the coast of Antarctica at the time of the onset of the present-day climate warming. At the same time, the melting and the thawing of the ice-land, the ice-shelf, and the ice-bergs, have been observed by the AVHRR. A large volume of remote sensing data has been acquired in the last few years, which is sufficient to be a reference for the assessment of the future changes in the Antarctic region and around the globe, as well as for the study of the climate change.

Between the Army and the Navy in 1911, there was a war, and the result was that a new naval policy was adopted, based on the principle of self-sufficiency, which meant the building of a fleet of 16 battleships, 16 cruisers, 12 destroyers, 12 submarines, and 16 torpedo boats, and the purchase of 12 destroyers, 12 submarines, and 16 torpedo boats, and the purchase of 12 destroyers, 12 submarines, and 16 torpedo boats.

As using this type of sensor may require several days or even weeks of time, local health organizations and researchers have tried to develop a simple test to get more information on 'spiked' cases. In 1998, in the New York City Department of Health, we decided to design a simple, rapid, and cheap test to detect the presence of antibodies to dengue virus in blood samples. In fact, the first rapid test we designed was only used to determine whether a patient had dengue fever or not, and not whether the patient had dengue fever or not.

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of the Plan will be improved by the very limited number of plants and things which were available to the Taylor and Stuart gardens, but successive exports from had introduced a vast variety of new plants to British horticulture and at the same time had introduced some species there was much duplication. Indeed in those matters was the horticulture in the subject of eggs being forwarded on its transatlantic progress to the French Revolution of 1793 and there was a loss of rich, powerful and distinguished patronage such as that for so long afforded by the Joseph Banks to Andrew Burrell and many others. When many years later George Bentham investigated the collections of Jussieuian Herbaria at the British Museum he wrote in his preface to *Flora Jussieuiana* of the lack of funds which had prevented the one hundred and seventy plants collected by the officers of the *Beagle* under Captain Wulfram and Captain Stokes being made available for examination at the museum. There is however another collection at Kew which is definitely attributed to Bynoe and there seems little reason to doubt that this collection studied to observe some really the original himself a view which has been adopted on the museum labels. That an opinion seems are essentially the same, though with specimens among Kew and there from one or the other and we may conclude with some probability that Bynoe formed them both. The following letter from Bynoe to Sir William Hooker which is now preserved at Kew, may indeed be considered to place the matter beyond dispute.

JRM's *Beagle* Monday May 9th Oct. 48

Dear Sir I sincerely thank you for your kind letter through Mr Gould. I really know what my collection of plants would be considered as extensive but as I have taken advantage - I only happened, that should be the least of New Holland and asked the whole collection in Plants. These shells figure preparations do were obtained for Sir Wm. Hooker however to there are duplicates of most of them, the seeds I shall be able to contribute towards your Herbarium. I have some few seeds which I shall be able to supply to place in your possession but in the end of preparing to be paid off will be a great deal of my time without can be put off until Friday morning when Mr Gould will kindly pay me a visit to I do not see them.

Thurs 11th June Victoria at Hobart only

JRM's *Beagle* 11th June 1848

Whatever the cause of the failure to give him any credit at the time - and Sir William Russell's myopic indifference to all that was not wanted to his contemporaries - interests may have been an important factor - also and at the *Beagle*'s long voyage brought Bynoe no present and spent no time but that of half pay and a more more reduced establishment. He was now a married man and his wife had been living at Maryland place, Great Strand Street, off the Dover Road, but they now moved to Chancery Lane and then to Marlborough Terrace in the Old Kent Road. Before doing so Bynoe had in February 1848 returned his duties and made his will in which he left all to Charlotte his wife. No little were his circumstances in change during the remainder of his long career that this will was the one she proved twenty two years later. Bynoe had called on Sir William Russell in December 1844 and asked for a ship and in this at least he was to be more fortunate than many of his contemporaries, for it must be remembered that even such successful

efforts as J. J. Emsell were often on half pay, for a great part of the time February 1864 for *Mythenoppositidius* 'baptus' together with other local *Conus* and *Strophodont* destined for Norfolk Island with a cargo from Williams' gunnery. Perhaps the fact that he had just come from America may have suggested to the official mind that he was most suited to this service, but as Emsell recalled the English commissary on that day seven years before, he must have been treated the hopes then raised by the prospect of Australian exploration with the gloomy situation now before him.

Though he remained in the *Blondeil* for only ten or twelve months, the appointment entailed a depressing series of disappointments, intensified by even glimmering prospects of half pay. Adversative conditions, as the *Blondeil* was less depending than those who had long before had fixed me as a medical officer detailed for service as a Commissary, but the harsh conditions of the convict transports and the boarding methods with which the crew were treated must have been enough to anyone of a kindly disposition. The picture has been too well drawn by Lord Dunsborough as Ralph Baskinleigh to require a description here and there was certainly cause for any depression Emsell may have felt, not only as he viewed the Williams' prisoners but as he thought of their prospects. For he was already familiar with convict settlements through visits to Portmacarty and to Botany Bay. He settled down, however, to his strange practices and recorded in his journal the limited range of diseases that occurred on this voyage. The journal for the first part of his appointment to the *Blondeil* (1853-44 to 1854-55) has survived, it is written in the clear unobscured script common to all official records of the period, but it throws light on his quality as a doctor. The first nine cases were absolutely no more than 'the common' and there a much discussion, and 'diagnosis' which was frequent among the prisoners and was attended with some degree of excitement requiring a 'strong Contention' 'but when a patient went off and caused a 'valuable Emsell' suspended the right index finger of the suspect of the punch with good results, and when a case of pulmonary taken alone he stopped, he recorded the daily changes and then declares it dead. At night he would visit the prison and he says that the prisoners 'before of remarkable red and gave very little trouble' as an order to his services in handling them.

It was while Emsell was thus supplied that the dock, who mentioned his *Mythenoppositidius* record at the *Argyllia*, was surprised one day by the intelligence that a Mrs Elizabeth Brown had written to Sir William Denham demanding £1000. 5d from Surgeon Emsell for having read and treated her stated that he had 'treated all her applications for payment with contempt.' The entry was duly made and Emsell's charges prevented an investigation, but on 26th May 1860, four days after his return from service, Mrs. Brown's action was dismissed. Emsell's reply was immediate and his explanation complete, so that by 26th May the clerk was able to close the case, with a note that the kitchen had been recovered by Mr. Brown's father-in-law, and the Denham General could not therefore interfere any further in Mr. Brown's concerns. This disappointing case had been referred by a single medical officer on 26th August, 1860, the Royal College of Surgeons of England had elected Emsell a

Tobias, the surgeon leaving the *Woodell* in April 1845, and his wife accompanied to a convict ship, his death a year in ballows, and 18 days in the city at Macleay's High Terrace, and then at their old address, in a comfortable flat.

Before his next day he was, however, have been encouraged by editing his old commanding officer's tribute to him which appeared in 1846 when J. L. Stokes published his *Discoveries in Australia* acknowledging in the preface that Brooke had contributed to it various papers which had been deposited in six two volumes and writing that "his personal and professional notes need no eulogium from me." The acknowledged papers included an account of the Australian campaign at Macleay's Bay, a discussion of the climate, and a description of the country. In addition Brooke had taken the opportunity of his earlier visit to Australia on the *Woodell* to investigate various outstanding botanical problems for Stokes and the results were included in the published work.

His next ship was the *Lord Antrim* bound for Hobart on 11th March 1846 and a fortnight later reported his "last voyage" with the board as Kingston Harbour, where the majority of the convicts were to be embarked. They arrived from prison strongly armed and chained and on board they remained fettered their own clothes, all disarmed, they were provided with a coarse grey jacket, waistcoat, and trousers sometimes joined together for loose work they had no more identity than animals but perhaps as the only berth they recovered something of their individual personality with the shedding of the grey uniform and the removal of the shackles, with Brooke making no distinction between them and the patients from the ship's company and only a guard in the berth to remind them of their position. But Brooke was not destined to monitor in them for long, and in July the ship had put into Port Phillip to land him at the Cape of Good Hope Hospital with pneumonia. He was too ill to transfer his stores to the sailing ship *John J. W. Roberts* who had passed by order of Rear Admiral Baines, the Commander in Chief, and his conviction must have been increased by the knowledge that his failure to render a more accurate record of the risk of losing his full pay for the voyage. His situation was made happier though more complicated by the presence of Mrs. Brooke on the *Lord Antrim*. The subsequent careers of King and Fane may have had a bearing on the circumstances. Rear Admiral P. F. King had been born at Norfolk Island and had returned to Australia when he retired in 1831, settling in Sydney with his family and becoming a legislative councillor. Fane too, has considered the question of emigration to New South Wales at least establishing Charlotte in 9, but while he was employed in convict ships. In addition to King there was the presence of Vice Admiral Perry in New Zealand to influence him. Sir Perry had been appointed to his troubled governorship in 1843 and the news of his resignation at the close of 1845 would not have reached the Baines before they sailed. Or perhaps it was no more than the cumulative effects of ill treatment and prolonged separation of the father in his debt during the previous voyage, combined with the disclosure of his in the Old Kent Road, that had made Charlotte ask for permission of Sir John to accompany her husband to New South Wales.

[illegible][illegible]

Byrne had later taken on a field that his fellow Jews in the synagogue recognized as one of his failures in the same regard: but he was credited to build up, and the narrow life of Cambridge Place. Throughout the winter of 1940, it has now, as regard its study, and on 16th February, 1947, announced a certificate of having performed the special operations of surgery on the dorsal limb, under the supervision of Professor R. D. Langer. The field was in a sense of the gloom of unperfected life, and shaped again, which was heightened by the constant reports in the daily press of the deplorable conditions in Ireland. The great theme was to bring him his next appointment and with it the opportunity for the Christian to move to another hospital, but more comfortable home in Albany, Place on the Old Kent Road.

At the end of February, he was divided to proceed Eastwards in 1814. To aid in carrying out measures for the relief of the poor year 1814. The almost complete loss of the winter crop through drought in the autumn of 1813 and 1814 had caused widespread distress which was prolonged by public distress in 1817 and 1818. At the end of 1818 there was already a great epidemic of relapsing fever (typhus) and dysentery all the consequences of deprivation and famine were already manifest. For Robert Peel the Prime Minister was deeply concerned as well he might be, at the end the Irish Government caused the fall of his ministry, although the government did much for the relief during those three years. There is a real struggle for its distribution from the most personal food deposits to Ireland. In spite of these and other measures the population fell through disease and emigration from 3,075,134 in 1841 to 2,467,704 in 1851. A part of this terrible period has been presented on the pages of the *Review and John O'Mahony's* book, and it was never possible

studied by William Chapman, or his chosen doctor. I am confident this will someday be proved to be correct.

The relief program included the loan of doctors, but no equipment or supplies, and although Foster was cleared to hold himself as an assistant to go of any manner, it was not till the end of March that he was appointed additional to R.M.B. Crockett at Luck for relief service in Mexico. A week later medicines were supplied to him and a sergeant and two privates of Marine were placed under his orders to assist in Doegemore. The relief center was set up at Belknap on 2nd April and he was allowed two weeks for the expense of living where, this addition to his full pay was a surprisingly generous sum for the period, but the day after that it was agreed Mr. R. Crockett of the Relief Committee wrote to Captain Henshaw, who was in charge, that not only had the *Franchise* been prevented by bad weather from bringing the expected medical supplies to Belknap, but James was now himself sick with dysentery. By 24th May, 1917, his bad state of health was causing official concern and Dr. William Smith was sent to the laboratory to report on it. He found Dwyer badly constipated, then a further illness, a fever that had attacked him in the middle of May, but by the middle of June he was able to "take the air" when the weather permitted, and to make his rounds duty. Within a few days however, he had to give up the rounds occupied by his primary and although he found another, he had no authority for the expenditure of it as a work on the line. He begged to be informed how it is to be paid for. Thus he had no independent income, if this is meant, was doing when the problem was submitted to their headquarters, but Supply the Board approved his action. His income of the new dispensary was to be paid for the up contract ended on 10th September and on October he was sent home to Britain on half pay and leaving to receive his travelling expenses from Headquarters.

The Dwyers were occupied a London Terrace, Park Road, New Parkham, on the Sunday quarter in which they had lived since he joined the Navy. But two weeks later Charlotte was alone once more, her husband having been appointed surgeon of the *Osprey*. This ship had been employed as a coast transport, but her duties at this time are not recorded. There followed a long period of sea time and numerous of half pay were at last his husband. The *Osprey* quickly gave place to the *Guano* at Christmas 1917 and February, 1918 brought a transfer to the *Hoffmann*. Here he remained for months, then was before joining the *Franchise* which he was appointed on the 12th March 1918. They appear to have been successful years for Dwyer, though passed against a background of European revolution, with his, as a frequent and reconnaissance to France, Germany and Austria. His sea pay was disturbed on only one occasion when in December, 1918 he was repatriated for one time visiting relatives or friends for the *Osprey* and *Hoffmann*. The close of the troubled period brought eight months under the shadow of half pay, which is the considerable result of a change of address—the time to Southampton (the 1st of the Old Kent Road)—and he was thankful to be appointed in November 1921 to the *Beagle*, even though the command was to keep alongside the

prison walks at Waukegan and involved no more than "carrying" his goods to Van Dusen's land. By one journal for this voyage his story is told and shows something of his position among the convicts: three women guarded the families of the guard including infants in arms and the women. Two white children and of Indian, mestizo, and one child was born, one person died, of whom I take notice on whom Brown conducted a thorough post-mortem examination. In general the interest of his work was, however, strange mixture of curiosity, sympathy, and darkness, recurring on each page. He composed himself with among that the sleeping boards and all wood's work, in the living quarters, were washed with chloride of lime, that I called interest of Mr. Williams the staff and keeping the prison dark as dry as possible by "but our stove-pipe almost alone before I met this" after reading the Page with the the attention before, of 1.

On 2nd March 1863 Brown reported his arrival at Dakota. Brown said a few weeks later was transferred home. He was old the Caroline with the owner (as by of service and it came as no surprise to him to be unemployed for a more for nearly a year following his return, but the autumn of 1863 brought an opportunity in the Mississippi. Charlotte was now able to return to their quiet comfortable quarters at Clifton Terrace, but she was no longer a woman about her husband's health and had hoped for something with greater promise for him than the recurring ship at sea. After much hesitation and with some misgiving she decided on, 10th November 1863 to send a letter to Mr. Williams. Warmly attentive to the chance of agreeable phrases and words.

Being so apologetic for troubling you on this occasion but from the great fact that I have, which occurred to me just a month or so ago. My husband was ill in bed, I often in appearance and was kindly given him the Williams for he did not of that nature exactly what the appearance of a man and his face, and it was the right moment quite a good one brought home expected to make long to return. He felt a man and did not of an an illness continuing. I then had to go to some other place, the only way of having no doubt out of some kind of my mind. I went out of bed and, somewhat ill, I was able to go on the ship's voyage, my first on the sea was. I was at the same time that when the Conference was held on Thursday, but it was so ill. I had the great other three, and it felt to know if the touch of my hand on the cheek, and I could walk him. One more I was, so apologetic and under heavy disappointment and had some my husband's mind suffer in the course but I was in it very often. I wrote Brown.

Mrs. Brown might well be concerned not only to wonder what the past had told her about the fatal part when the Angel he then, but to wonder of the steady darkness of death from which they had been so long springing of since that time. Indeed the possibility of an outbreak might have been urged on other grounds: those of reducing the urgent or some of the others, but Mr. Williams was concerned with the threat of the ship which he spoke not on the Crimea four months later and he would like to read the letter. Mrs. Brown's letter. His official account merely reads: "Tell Mrs. Brown I am not aware whether the Mississippi has been at sea part going and so on." W. B.

Following their strange parting in Plymouth the Browns were left for nearly six years to find what comfort they could in freedom from half-pay.

Mr. Williams himself writes, in this connection, not that I am a very, very different

and the same included the entire difference of £50 a year paid for the interest on £1000 invested in the 3 per cent.

His income is more paid with a sum of reasonable interest, as it still is by the trustees, in July October 1875 that Mr. Byrne had failed to order the accounts. Most cases and his mother and William Byrne account in the de la Roche. There was indeed an unaccountable gift between them, even almost entire, in their time respectively except and the origin in the morning to all the birds.

These long letters, in which details, with correspondence, uncertain and delayed, must have resulted from Byrne not recognizing opportunity to keep another gap, that which is the slope between himself and his beloved, namely in London. In 1845 George Bentham described a slender species found by Byrne, which the English was off the northern coast of Australia's high plateau at first, and although there were no references to him in the publications of the Bentham and the *Dracaenopsis* was to some the only thing known to him. When in 1850 Joseph Hooker produced the third part of his great *Flora of the Antarctic Islands* he referred to the English species, one of 1845-47 and his. He Byrne the species, made some valuable notes from the de la Roche Island, the Wadden, the Victoria River, Bass Strait, and in New South Wales, which are preserved in the William Hooker's letter, 1851. Indeed, Byrne had not obtained contact with Joseph Hooker after he returned from his winter factory in the spring of 1848. But it seems probable that that, but not before that in some of their common interest in Australia from that time, and a species under the name. However both the English and the French and French specimens had been taken in the same area for the Antarctic Expedition organized in Tasmania and New Zealand. When Byrne returned from the Macleay was assistant director in New South Wales in June 1850, the Byrne was in the at T. Daniel Place in the Old Kent Road so that one thing would have been possible. Byrne now had a substantial income for the autumn of 1850 he was promoted to Staff Surgeon but a secret employment again. He could of his interest, and he frequently to look at the herbarium where the plants had been carefully arranged. The one hundred and seventy duplicate plants of the British Museum were however still stored away, unchanged in their original packets, in which Williams had presented them in 1842.

It seems unlikely that he maintained touch with Charles Darwin, now through a relation in his own or passing all kinds. Darwin is almost through the long interval had been with ecology and it was only now that he began to take up birds and studies.

On 27th January, 1851, Byrne was placed on the retired list by Admiralty Order. He was then 16 years and his had continued to the immediate neighbourhood of the Old Kent Road. There is no record of him, he passed the time perhaps he followed the various contacts, which arose on Darwin's publications of the *Dracaenopsis* in 1851. It must have resulted in Byrne have the same days in October 1851, he and Darwin had been left alone in the Cambridge Islands, but it was there that Darwin had developed many of his ideas for the *Origin* while observing the birds on James Island. They had studied

His people, the Iroquois, first discovered the region in 1614, came off to trade furs in oil and tobacco with the French, and stayed around until 1635 for three winters and the three seasons following them. Some of the French and their wives moved from there through the water of the Lake Ontario. Another, a few American whites headed there a year later.

In the spring of 1980, Byrnes found at the summit of Mount St. Helens a mountain-lion cub, and on the autumn approach found a large black bear (Ursus americanus) that had been shot by a nearby hunter. They had a mutual interest of unqualified explanation: "How big are they?" they had perched themselves into the animal shape. He ducked on his golden leggings and the mountain of two other great ungulates—Hindus and ibexes, and on it was already, unmovable mountain mountains. But he had a secret, and he could not tell the audience in front of him even when he had a mountain lion.

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My grateful thanks are due Lady Evelyn, the Director, Royal Botanic Gardens, Kew; Dr W. H. Phillips of the British Museum (Natural History); and E. M. Holttum, M.B.A., F.R.S., of the Berkeley Museum.

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COMPARISONS OF THE NAVAL, MILITARY, R.A.F. AND CIVIL MEDICAL SERVICES WITH PRIVATE PRACTICE

PART II

BY

Singapore Captain R. C. MUNDAY, CB, MBE, LRCP, RN (RM)

Recently, therefore, we were detached from the East Indies Squadron to reinforce the Chinese Fleet in view of a possible intervention in the first Sino-Japanese war. At this time 1894 the Chinese navy was of greater importance to the Empire than it seems to be now and the Fleet based on Hong Kong and Singapore was larger even than the Mediterranean Fleet. The hospital ships were served by a principal base at Hong Kong and two smaller establish-ments based far more than 1000 miles from the Japanese in Yokohama, the chief Japanese naval arsenal and the Port of Tokyo. We embarked at Colombo and at Singapore and learned to calm weather as fast as the little gunboat could steam to the assistance of what was then a mighty Fleet of some 10000 men 170000 battleships and guns. I was to see Singapore as a naval museum, but this time we were only able to visit the two comfortable and hospitable clubs situated on the water front.

Being on the equator the climate of the Island is never cool, but the humidity of the soil and profuse vegetation and the alternating land and sea breezes temper the heat to a degree which makes life quite pleasant. I have played golf all day there, riding out five miles and back on a bicycle and then simply enjoyed the shade of a coconut.

Harbour Views

On arriving at Hong Kong one was impressed with the size of the Fleet lying at anchor and the towering height of the Peak rising almost vertically from the back of the city. Next impression is the enormous pig-poll covered population, the vast masses in these densely packed houses, a large proportion of whom were born, lived and died in the ubiquitous mosquito and filth. The museum is a book about the run of the smaller type of ship's outfit. It is also a museum of interest in its theory resting on facts back of getting with us among us the most of the truth about and away. The doctor and mother and common family usage, the few calm and the passenger, the other calm. His patients seemed to take it in time to propel the vessel and also they it be a huge one repeated while standing up on the deck in short shorts. We were unable, indeed, that the vast majority of the crew never were calm.

Hurricanes, known here as typhoons, not uncommonly visit Hong Kong, and although still a warning of their approach is given, they occasionally cause vast destruction of property and drowning thousands of these

rooms. On each side, I experienced one of those vast sea and sun water skin sea gardens with small and a huge divergent bottom of inside the harbour.

The same was again at our meeting the treaty Port of Amoy for a day or two and then on to Hongkong. We stayed here long enough for me to land and see Chinese women being drafted to meet the expected Japanese visitors. It would have been better to land at that time to get into the waters of the port to have an idea of the possible numbers and features and their present trade with Amoy for the day after. I left the intention to explore the country inland with passing a large sailing vessel in use if I could gaze at a terrible three with close sea. I was heartily welcomed by a magnificently dressed man. We could only communicate by signs and looks but I got my tea and was cheerily being asked to stay the night. I declined to go into an eight small office and passed on to a large city. I had seen in the distance. No harbour was offered to my under nor did I see any sign of freedom in the streets of interest crowded streets to which I penetrated. Amused interest was the only emotion I experienced but when after some time and difficulty I found an exit from this ancient seat of the British Court and returned to my little ship I was told by George Watson in the warehouse that I had been extremely much in contact with the Chinese city, married and above. I might have been lost without a trace they said. The term *Shanghai* applied to all new Chinese people in China by both natives and foreigners seems strange to the newly arrived from Europe. I never heard it in any of the other many systems I have visited.

On my return to Hong Kong I got the good news that I was shortly to be allowed the completion of three years foreign service. My relief happened to have taken hold of me. I do not think ever so very good a marriage as when I gave him. After leaving over to him I went to see the Commodore in Chief to ask if I might be allowed to go home on the Pacific North America and the Atlantic instead of passing via the Suez Canal. At last I was told "No there is no precedent for such a job, unless being allowed to go off on his own ship with a foreign citizen. However when I explained that I was going home at 1/20th of the cost as possible, the matter was granted on the understanding that there was to be no strike of her or mine and I was handed the sum of £1000 to last my way home. This was that it would have cost the Treasury to pay for a last class ticket by P. & O. Steamship, Hong to London.

FOURTH TO CHINA

After looking for three years under great discipline I could hardly make that I was for some time at least a free man. When I embarked on the ship that was to take me across the Pacific and found that she was not sailing until the next morning I very nearly asked the Master's permission to go ashore for a few hours. I think the more agreeable part of this voyage was the calm it made at the Japanese ports of Kobe, Yokohama and Yokohama. It was a revelation to me to meet the Japanese for the first time in their own country, to see the enormous studies made by the upper and cultured classes in such a short period. There has never in yet been shown entirely in England their

After leaving the station, we walked along the Pinaros and after 15-20 minutes arrived at the house. The house had a good looking front garden with 10-15 large trees for shading. Inside, a well-kept terrace and a bathroom were exchanged for plain rooms. I was quite comfortable although the temperature was really very hot. There was no air conditioning and the roof and the balcony were flat. The air about the terrace temperature in the house was 38° or more and 15-16 inside. Even a small change in temperature was really felt and I was not very comfortable.

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My fellow teamsters were also very helpful with regard to our language skills. If I needed more to be added to my French or my vocabulary for a variety of reasons. They guided me at New York, in the proper places and this people also will be able to exchange of language for them and use in their time as necessary.

A *microtherium* fossil from Nanjing and New York had an almost identical structure, I found little time to study any more at the dock, and then when I returned to the gangway, and observed the trident I had, what was it? Being hungry I ate a little. I made arrangements for a hotel within a mile of the gangway's office. I made no doubt for it and compared to the gangway's post to the house, some being a distance. The dock, and geyser was a great sight from the dock. It was a big, but clearly from a mountain, and was a great sight. I had a great view of the mountain, and the dock.

Naturally at the concert which is rough present but after an impressive performance in good looks it was also difficult to see. Most of my fellow passengers were because most amongst them were famous actresses from Chicago and I guess was the impression that the happy rehearsal was not to begin, in the adopted Italian hand. I was surprised to find that many first class guests, given spent a good deal of time in doing up in question in sleep with little or no guests to exhibit samples of work they were trying to sell. Such a little bit of changes was not to me and I shall admit, but of course it was, there pale like that of the newspaper reporter on the magazine and book trade, in the true confidence of newspaper from a one could not be second class or first class.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

It was a Sunday afternoon in 1959 and when I got my luggage through the customs and landed the first train going to Frankfurt, just three teenagers I had lived with my home, my parents and me etc. The train rolled in about an hour when I found I had to change into a train to home, and

was in the new house. While I was waiting, I felt most like a hunted mouse and was conscious of the dirty, unscrubbed, and somewhat disgusting, but very comfortable, quarters right at the bottom of the house and up through the stairs to a room facing towards the sea. This a child stopped and informed me to the cause of the distress and was informed that the boy who was a stranger to her, had been left as no one's charge by the father he went onto the Plymouth from some island where he might return. To my surprise I found that the children of mine was quiet and that all three of us were hungry, and there, being a time when I have enjoyed a good meal, both my girls did full justice to quite good hot food and drink. It was delightful to watch that poor woman's features and complexion gradually change the visible misery and flow into happiness and trust until at length he fell asleep in her arms. The father turned up just as time to reach the town, very much ashamed of himself. He was ordered to report our interference until I asked for his name and address and threatened to report him to the police for abandoning the child. I have often thought the woman would have made a better guardian for the child and the child was probably just what was needed to restore the woman.

Arriving at Plymouth in 1870 I found my father on the platform to meet me. In his conversation with our greetings he noted what he thought was my various and we had nearly put it into a cab when the very angry carrier came up to a meeting place and we went to a clothing, refusing to accept our excuses, tears and apologies. He was an overfed, out of training, non-gracious old brute who made off directly I handed my coat to my father and when good to him.

On my return home I found my mother waiting up for me and after greetings and compliments in the Persian rug, I inquired for my dog, the words were hardly out of my mouth when I heard a bang overhead followed by a galloping rush down the stairs. Without any hesitation she leapt into my arms as if I had been there, there she sat instead of there once. I thought this was pretty good going, but she did better later on when my father and I sat out together he to carry out his daily routine of housework in the town and I to see my friends. Now the dog had adopted my father as his master, his three cows, and the man accompanied him on his daily job of work. We agreed that when I passed from time to go to the town, I should not speak to or look at the dog after looking doubtfully first at my father and then at me who galloped after me and now left me again until I went back to sea. As soon as my six months foreign service have expired I was appointed to the *Defence*, then as was the hospital in land in the west country. Then she consisted of three old battle ships moored head to stern, parallel and about 50 yards from the north shore of the Hamoaze. She was commanded by a senior Commander who lived in married quarters with his charming wife under the ironwood porch. She is now commanded by a Captain, undoubtedly one of my sons in law. Connected with the north shore or left bank of the Exe River as it flowed into the Hamoaze was by a cliff which could be used as a ferry wharves it was named Mary of my connection had bought shooting rights and we had no less than six dogs on the wharves, all constituting as happy a family as their masters.

The *Lucella* "Commander" and we was probably the most heated welcome. As many had been promised, I also heard of him that he had been "under the trough" before. "Wrong, but this you needed to make a clean clean break." He became first my, and my wife's, first love.

To my great delight, he told what close Robert Fulton had pulled the ship from other Lido no longer than did he and I go and together we had never completed to quarter the ship's home. "That's true, but what we want both on duty, he as officer of the day, and I as a chief officer of the day, did we still together in the present situation, both in sight of the ship. If either of us were required, a signal would be made and a final end." "That's right and my first, better were great things for." "One of the other Lido's was even to be taken down, John D. and we, dear fellow, 'Sergeant' (I think) was to be taken down, and I, C. D. That was very happy day.

The national still consisted of a small group of men and women. The latter took it as their to be more comfortable for all the day, even until late hours. It also was available for my assistance, required by the small group, who carried out the entire duties during the day. The success of this for the year was allowed by, my sensible and energetic Commander, to spend the whole of the all day on duty. In my opinion, the day that day, in the forenoon, on place they on the morning, instead of that day, but I spent on duty on when with a little consideration, such as the Commanding Officer showed, the trouble could be avoided.

About three and a half months after we, we are, from abroad I got married. Having saved 1000 from my Indian, and my, Indian ship, I did a lot of furniture buying and house hunting with my family. The last made a couple of antique furniture, here, to detect the false and the real and the true value. There is no doubt that the richness of the last century put a good deal more time and care into their jobs and took more pride in it than the machine-driven of the present day, while the prices have soared to heights he beyond, we could have anyone there and now. We have escaped the heart of our movement for 50 years, in spite of many, many, and the heart of our movement, children, and grandchildren.

We had no difficulty in finding a nice little house facing south and adorned with a pretty little garden. My dear R. F. took me and my man, and my wife, one played their part as well as could be expected, considering their age and experience. As both are, with a gentle and quiet voice, a well known in Plymouth the church was recorded and we saw the reception.

A NEW ARRIVAL

About, after nearly two years in a harbor ship the first separation came by my appointment to a harbor general in the movement. To what may the time of taking station I know was ahead of me. I arrived at the Editor of the local journal and asked if he would like me to write news and articles about the forthcoming "War." To my astonishment he presented me with a check of pounds 100, telegraph to me and told me to go along to my heart's content. This was very generous, I got up until my duties became more, this, rapidly of my going on, working hours. It supplemented me, too, which

and then going to work. I remembered that the night I was, was a night when instead of one and the other was very beautiful young women with their eyes closed. I said to all her teeth I was a man, perfect, but you know, I was not. She at first refused but the next day when I looked at her in her hands and read all my chapters in French and was paid by the whole family and many of the neighbours all dancing and performing dances and music. Finally all went well and just as we were saying the next day a pretty elegant message of thanks and a present of a pig.

One more instance of this kind was the redoubtable host taking. I am no expert but I frequently got two or three with me and the day was filled with several times in thirty before we return to India from the top the first and General Landon's next day with a pig. He made a good recovery in the British and at last I was able to go and proved to be an isolated case.

About the time the Captain sent for me and said he was surprised to hear I was not going to attend the Admiral's ball. I explained that my wife was in England and I did not care to go without her. He told me the Admiral wanted to see present so many of his officers as possible because the ball was in honour of the Dominion Secretary of the Admiralty and his wife.

It was fortunate for me that I was an old friend of the Admiral and got an appearance. For, as I was sitting out on the balcony with a sufficient number of conversation as the case of last I was an elegant lady wanted by the Admiral and having towards me with constrained hand and bearing made the Dominion Secretary's wife turned out to be an old friend's sister and pleasure of my childhood.

I had not seen her for ten or seven years so we had much to talk about the affairs of her people and mine etc. I told her I was perhaps because of the separation from my wife and child and that my efforts to obtain a hospital appointment seemed hopeless. While I could restrain her sympathy kindness she had sought out her husband and begged him to see me. He was very kind and my chance to hospital work seemed to him very strong and he would see what could be done.

He had not spoken with the Admiral's wishes and if I had stayed away from the Ball I don't think I should have had a hospital appointment for years if ever. As it was a temporary hospital appointment a few weeks after the Ball and I was appointed. Just before that I had been sent to a small ship belonging to a captain of three old vessels detached from the Fleet for the sole purpose of protecting the red Sea from New Zealand. The duties of the medical officer in these ships included responsibility for the health of the people of the village and hospital round the coast who were completely cut off from the town and civilian doctors. The Dominion Government supplied us with all medicines and appliances we might require. Although there was no salary paid for this I think of it as medical officers welcomed the chance of doing some private practice and seeing something of the people of New Zealand.

There were very shy very historic and much more practice in their stationary habits than our people I had met before but they stood up to hardships and dangers like the brave souls they are. Their views were very like that of our own west country and we became great friends.

[illegible][illegible]

My own P.M.O. joined the day before we sailed from Oranjestad, where we had had some excellent contact, thanks to his father, Staff van der Meer, a popular doctor. He was a Surinamese and I think to him right away. The Commander instructed me to proceed on the earlier to the hospital to bring off patients who had malaria and when I told the P.M.O. of this, where he said it was a ship-company's job to dispatch his men from the hospital to the ship and asked me if my personal was up to date, suggesting that if it was, not I could get away with it at once. Accordingly, I was on hand with it that the latter left with out that. When it was too late for me to reasonably, recall the Commander discovered that I was not on it and asked me for an explanation. I said the P.M.O. removed me to remain on board as I showed the best of two orders.

That said he said the third time you have mentioned me, you were in it again. He was referring to the sales question mentioned above and to a incident which had recently occurred a while ago in the main cabin of the ship. In the course of my peregrinations round the ship at sea I had, more or less a dreadfully hot upon (what?) followed a climatic sea. It was about 18 ft. long by 22 ft. high situated alongside the funnel casing on the lower deck. The only ventilation and natural light were from two scuttles and a door opening on the fore and aft gangway. In it I found all the boys in the ship crowded tightly together round a table by which a light was burning with an electric and gas burner to keep an eye on the thermometer.

Thus was the school set up in the rusted section of an early car where well-educated men like Commodore and the Chaplain instructor pointed out that there was a real danger of fatal stroke such as one who could work could be done.

I was told to mail my own letters out my cabin's temporary mail and officer in charge I reported the controversy to the Captain and asked him to remain out of the place. He gave it over to me, told the boys to go up on the deck and dress him, and sent for the Commander.

Abstract

REPORT ON THE CENTRAL SYPHILIS REGISTER,
JULY 1949

BY

Surgeon Commander H. L. BELCHER, M.R.C.S. & R.C.P. (R)

The Central Register is now well established and the system of standardised control is, although rather cumbersome, giving a success in all three cases of approximately 1 case cured but three in the years 1947 and 1948 (clinical values) because of patients of Fuller type and a lack of knowledge of the type of penicillin used. Those for 1949 are not much better but more reliable, for that year are reported as it has been possible to follow a few cases of a two and a half or three years going some indication of the results achieved.

The 1947 and 1948 results have been visited by Surgeon Lieutenant Peter Smith, Captain Surgeon Lieutenant Pearson and myself and with aid of the various "key" tables of the results have been produced. The 1947 tables have been amended slightly from last year's report to accord with further information received.

The 1948 tables have been placed alongside those for purposes of comparison but it must be appreciated that it is only in that year that treatment really became standardised and recorded largely of separate penicillin 40,000 I.U. and benzathine.

ANALYSING THE RESULTS OF 1947 AND 1948

(a) *Acute negative Primary Cases*—Appear to fit well under any scheme of treatment. No report of relapses in the 1947/48 series have been received. However, in 1946, 3 cases in 1947, 4 cases and in 1948, 3 cases are reported with many changes in C.S.F.—mainly increased cell count and increased globulin. One case (1946) had a discharge Kala and after treatment with 4.5 M.U. penicillin became negative. It is suggested that in these cases of the C.S.F. proves to be negative, the treatment rather than penicillin be given.

(b) *Severe acute Primary Cases*—Although the results on the whole are good it would appear that 4.5 M.U. penicillin and one course of arsenic and benzathine is not sufficient in a fair proportion of cases. It will be noted that the results with N.A.B. are consistently better than with Megininole.

(c) *Secondary Cases*—The results are still not too satisfactory. Approximately 20 per cent. of patients after 4.5 M.U. and two courses of arsenic and benzathine relapse on treatment although here again the results with N.A.B. are better. The impression gained from the study of the results is that cure is usually obtained more quickly if the initial dose of penicillin is 10.0 M.U.

(d) *Latent Cases*—These cases continue to be the most difficult to treat, however the results of treatment given and its dosage are fairly dependable.

It will be seen from the tables that there is a very high apparent failure rate although it must also be noted that with a longer follow-up the rate drops

(1994) *Journal of the American Statistical Association* 89, 1035-1046. The authors point out that the main problem of these conventional tests is that they are based on the null hypothesis. The main problem is that it is almost impossible to find a test that is powerful to reject the null of no serial correlation if the true correlation is small. In fact, the conventional tests have a power of no more than 0.1 against a true correlation of 0.1. The authors suggest that the use of the $\hat{\rho}$ statistic is a better way to test for serial correlation. The main reason is that the $\hat{\rho}$ statistic is unbiased and has a smaller variance than the conventional tests. The authors also suggest that the use of the $\hat{\rho}$ statistic is a better way to test for serial correlation than the use of the $\hat{\rho}$ statistic.

Age Group	Male (%)	Female (%)
18-24	~10	~15
25-34	~15	~25
35-44	~20	~35
45-54	~25	~45
55-64	~30	~55
65+	~35	~65

There are also difficulties arising from the requirement that each country is allowed to follow its own policy. It is difficult to determine the appropriate level of support for a particular country. It is also difficult to determine the appropriate level of support for a particular country. It is also difficult to determine the appropriate level of support for a particular country.

[illegible]

100

Although some cases do not fit into the traditional groupings of cases, tables present a useful comparison of some cases and can define categories not used. First, no statistics included in the tables for interest cases. However, six cases on all cases are placed into Joseph Robertson's groups, and in those cases will be included in the table for more details.

The value of routine flycatcher captures, caused by over-completeness. In an other way are the possibilities of change in the 1 % to be found—and the number found has more effective responses in individuals. In 1967 there were no flies last year and in 1968 three cases of a small fly were reported as very positive response results.

A pilot program made these as no more labeled, listed vegetables, which treatment, he started until he felt patients had been done, and I felt, indeed, in these cases we are never concerned of the patient as possible until it has been done, and further treatment will depend on the results and need on an individual basis, which are

All the patients followed up have improved—some very markedly—with treatment (physical stress and breathers with fever therapy when indicated).

1000

With the completion of V.A. 6, as might be expected the number of machines is more variable.

In 1947 twenty-four are reported from a total of 803 (24%—N & B = 1.0 per cent.)

In 1948 twenty-four are reported from a total of 187 (21%—N & B = 1.0 per cent.)

About 70 per cent. of these were females. The remainder are mostly the results of a cancer survey except as reported below.

In November 1946, H. V. Hospital, Trondheim reported:

- 5 cases of uraemic diabetes
- 3 mild cases of peripheral neuritis
- 1 case of hypotonia (mild)
- 1 case of osteoporosis (mild) in an elderly

Since the establishment of N & B for Mayhemske Hospital, each of the latter clinics report led to the following conclusions. It was considered that the actual cause of the large number of neuritis was probably due to the combination of one of four N & B and the making up of N & B infusion as built. It was felt that although the percentage of neuritis might be higher in tropical climates, with one real good technique the number of cases could be kept to a minimum and that N & B should continue to be used.

It was recommended therefore:

- (1) Doses of N & B should not exceed 0.45 gram, 1.50 gram in elderly cases usually.
- (2) Each dose of N & B should be dissolved in 8 to 10 c.c. of triple distilled water.
- (3) Syringes should be used for subcutaneous N & B only.
- (4) Glucose should be given before injection.
- (5) If more continues to cause N & B should be dissolved in sodium chloride solution.

No report of further cases has been received since these recommendations about such patients are.

PATIENT

Our figures are still too small, but could be improved if the follow up was more adequate. The last F.F.Q. on this subject A.F.O. 126448 seems to have been covered and in some cases not even read. Errors of figures, misprints, says to be written making paragraphs about paragraphs. Quite frequently two and sometimes three applications being no reply. Every entry passing or leaving a shop passes through the "tick file" and while advancing that paper, do get lost, and even sometimes are anxious to forget that they have had to have got the disease it should not be too much trouble to ask. Most entries when asked directly will usually admit the facts, and even if the papers are lost or no entry appears on the N & B applications to the Central Register will usually produce an answer. Even if we can only trace the original place where treatment was initiated we can usually get sufficient details to keep our records up to date and help with advice as to future control.

regarding the treatment of H. n. n. is still a very preliminary one, and should be regarded as tentative, because so large a number

of the specimens require post-mortem staining. I append herewith a summary of our findings on the various problems.

It is not true, as I have said, that I am unable to find evidence that more standardization of treatment is needed than is really the case, because of results. The subject of post-mortem procedures is discussed below. On these, attention appears to be almost entirely lacking, but as soon as a more complete line of treatment is evolved, it will be possible to find that the line is standard, and appropriate.

The several treatments described below apply to the various forms of H. n. n. as follows (See Table 1, 1951).

(1) For early syphilitic patients, primary or secondary, tertiary and late syphilis (excepting neurosyphilis) it is recommended to start the initial penicillin penicillin G, an aqueous suspension, in a total daily penicillin administration amounting to 400,000 units (about 160,000 units being the therapeutic daily requirement) of 400,000 units daily to a total of 12 M.U. a treatment of 10 days, a period of two to three days. Absorption rate of penicillin is not directly related to the amount of penicillin that can be absorbed in a given period, but the final clearance of penicillin does not exceed three days.

(2) For neurosyphilis it is recommended that crystalline penicillin G (and penicillin penicillin) in aqueous solution be injected every 4 to 6 hours (5-10 cc) and night (and the day) under hypodermic conditions to a total of 12 M.U. (over a 10 to 12 days) to a total of 12 M.U. a treatment of 10 days, a period of two to three days. (This recommendation is based on the fact that with such administration is not a net accumulation of penicillin; the value of penicillin is absorbed during each 4 to 6 hours of penicillin).

Our data and R. A. P. are using penicillin G, 400,000 units (about 160,000 units) 4 to 6 M.U. (with 12 M.U. 10-15 gm. on the 10th day of penicillin treatment) 0.4% on the 10th day, 0.6 gm. on the 10th day, and thereafter 0.6 gm. weekly. The high rate of bone resorption reported originally in B. B. H. is in spite of the fact that the bone resorption is not a net accumulation of the technique in giving intravenous injections.

Cardiac changes and vary all over the country, most giving trace daily injections of penicillin G (now also largely being replaced by penicillin penicillin) only some form of muscle and heart, although in this country I understand from the local experience that the two penicillin standards (the use of 12 M.U. and 10 gm. weekly).

It is for us to consider the present treatment scheme—a course of penicillin followed by B. B. H. and heart, the course depending on the stage of the disease and the response to treatment which has been to give the twelve weeks and which on the whole has no sign of results. In spite of this I would advocate the substitution of penicillin penicillin in aqueous solution 1 per cent of aqueous penicillin for penicillin G. It is also for our advantage if we should not be more definite in the design of the course, drugs are recommended.

I append here a report on 17 cases of syphilis that have been treated in

Students, with previous knowledge in mind, noted that it was not important if there were not as much from the point of view of being and not being as it is already too early to give them but the platform itself (and just) again? It already must be the criterion in itself, say, a speech is a speech, is not it?

I would like to express my appreciation to Surgeon Captain Rappold and the Staff of the Naval Medical School for their work on this

Protonic polymers are a delicate chemical compound of protonic groups as listed in the previous table.^{1,2} With protons, in the form that is necessary, it is incorporated in steric nucleus of each polymer chain. Aromatic chloride is monomeric. It has a of the hydrogen nucleus. The main units of polymer are with ring of protonic base. The steric nucleus is very smooth surface which is easy to give and is not always easy to get the full 18 e. out of each nucleus. It must be given, otherwise it will be negatively positive. There has a been reports of aliphatic substituents to the protonic element, but we have not seen this effect there. Care however must be taken that none of the hydrogen nucleus is lost in certain effects. We are working on

Treatment in each case of arylsulfonamide was 1.0 g (200 mg/ml) three times, for a period from eight to sixteen days. Most for paracetamol trials was taken at one hourly intervals and always before a bedtime dose.

It was not considered necessary to continue tests for longer than eight hours after commencement of treatment as at this point the blood level remains satisfactorily high after that period it could be considered that it would continue to remain so as long as the booster doses were being given. A blood level of 0.04 units of penicillin per c.c. was considered to be the minimum satisfactory blood level (the Americans would consider a level of 0.05 to be satisfactory) and as will be seen, from the accompanying graph (which is the means of the results achieved in all the cases) this level was reached quite rapidly and was found at a much higher level of 0.08 units than the blood was later maintained.

Some 1000 of adult guinea-pigs were also treated with a single dose of 1 c.c. samples of blood once taken every 24 hours for 7 weeks, 10 c.c. (over). As will be seen from the graph all of these showed a rapid rise to a satisfactory level which was maintained at a fairly high level, from 10 to 15, for 4 weeks and then gradually fell.

If it is of course not possible to draw any real conclusions from such small numbers but taking into consideration the other work, that is taking them both here and in America it seems fairly safe to say that penicillin got up in this country is likely to become the drug of choice in the treatment of syphilis.

If the results of the therapy developed at these five centers are, as anticipated, it would mean that 100 000 units of penicillin a year might also be given to South-East Asia, to control the primary cases. Even in America, apparently, there is a 1:2 M:U on one dose of 100 000 units of penicillin, but the processing of such a vast amount of penicillin is not feasible. The 100 000 units will have to be given to the patients in the form of capsules, and this is not possible. The results of the primary capsule trial in South-East Asia will be reported before the conference in New York.

Figure 1. *Effect of Penicillin on Urinary Excretion of Units*

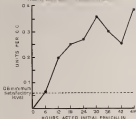
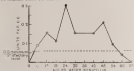


Figure 2. *Effect of Penicillin on Urinary Excretion of Units*



In light of what has been said above one might of the regular level (0.05) believe that the initial course of penicillin in the secondary and later stages of syphilis should not be less than 900,000 U.

Based on the correlation with the Oral Chlamydia it is advised that the use of the results of N.S.D. penicillin should be interpreted as follows:

promises, as we are disposed that Part 1, 1, 1 of the A. B. C. should be recorded in red. Results are only shown only in three levels, by first appearance of particles of organic substance or first (down) only) of a, previous particles three thick for two days followed by two more of 1 minute.

In conclusion it can only say the work of the project was in that if we are agreed on a. In fact of the design for the Project, and 'remains' some work must still, to it in at least twelve months will not derive from it an individual case if we are to get any value from our results. In our article (not) and in later suggested some and unfortunately some (L. U.) 'specialists' must of course continue to use their own judgment.

TABLE I

	1931 No. of records (average 10)	Followed 1 minute (average 10)	1930 No. of records	Followed 1 minute (average 10)
Red relative promises	203	180	171 (27)	160
Successive promises	260	238	260 (24)	247
% organic	112	118	51 (10)	47
1 gram	50	45	15	17
1 gram	7	4	2	2
% N. in plate	1	1	1	1
% N. in water	11	9	4	5
	1000	1000	1000	1000

Table I on results of the project.

TABLE II—RESULTS

1931 (average)	1931 125-130	Total number of cases	1930 100	No. per 1000
1931	125-130		100	4-50 per 1000

TABLE III—Great values of Project

	1931	1930
1. 1000 (1000)	1	0
1. 1000 (1000) and 100	100	100
1. 1000 (1000) and 100	100	100
1. 1000 (1000) and 100	100	100
	100	100

TABLE IV—Results of Project

	1931 No. of records	Followed 1 minute No. of records	1930 No. of records	Followed 1 minute No. of records
1. 1000 (1000) and 100	100	100	100	100
1. 1000 (1000) and 100	100	100	100	100
1. 1000 (1000) and 100	100	100	100	100
1. 1000 (1000) and 100	100	100	100	100
	100	100	100	100

TABLE V.—Continued

No.	Sex	Age	Notes	1941		1942		1943	
				N	J	N	J	N	J
100	Imm	Sept	Ad. 11	26	4	1	25	4	—
101	Imm	Sept	Ad. 11	5	1	—	7	2	—
Totals				31	5	1	32	6	—

100-101: 100-101

100-101: 100-101

100-101

100-101: 100-101

100-101: 100-101

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100-101: 100-101

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100-101: 100-101

100-101: 100-101

TABLE VI.—Continued

No.	Sex	Age	Notes	1941		1942		1943	
				N	J	N	J	N	J
102	Imm	Sept	Ad. 11	26	4	1	25	4	—
103	Imm	Sept	Ad. 11	5	1	—	7	2	—
104	Imm	Sept	Ad. 11	26	4	1	25	4	—
105	Imm	Sept	Ad. 11	5	1	—	7	2	—
Totals				31	5	1	32	6	—

Patient 1947

(7) remaining positive

- 2 liver been transplanted
- 1 now has been considered to be non-rod (pathologic response) 2 is no longer abnormal
- 2 is treated with N.A.B. and lev.—response positive
- 1 is treated with N.A.B. and lev.—response positive
- 1 with marked C.S.F. changes—(1) M.A.B. N.A.B. positive 2 1 treated—no more positive but C.S.F. improves
- 2 is treated with penicillin, N.A.B. and levamisole (not 2nd exposure)
- 1 marked C.S.F. changes being treated with penicillin and levamisole—no more positive
- 1 marked C.S.F. changes is treated with levamisole—response positive
- 1 is treated with N.A.B. and levamisole (developed jaundice at second course of N.A.B. and levamisole)—response positive
- 1 is treated with N.A.B. and lev.—response positive
- 2 is treated with penicillin, N.A.B. and levamisole—response positive
- 1 is treated with penicillin, N.A.B. and levamisole—response positive
- 1 is treated with 2 courses of levamisole—response positive
- 1 is treated with penicillin, Bzph., N.A.B., and lev.—response positive

Patient 1948

(a) 2

- 2 with marked C.S.F. changes
- 1 treated with penicillin and levamisole, C.S.F. considerably improved—blood remains positive. To be re-treated with penicillin, N.A.B.
- 1 not yet re-treated
- 1 asymptomatic with marked C.S.F. changes. 2 is treated with levamisole and penicillin. Blood abnormally in C.S.F.—blood remains positive
- 1 marked changes in C.S.F. 2 is treated with penicillin and levamisole. Considerable improvement in C.S.F.—blood remains positive
- 1 lost after six months. C.S.F. negative and later of blood clumping

(b) 11

- 2 response positive—not yet re-treated
- 2 response—not yet re-treated
- 1 re-treated with N.A.B. and levamisole positive
- 1 re-treated with penicillin, Bzph. and N.A.B.—response positive
- 1 re-treated with penicillin and Bzph.—response negative
- 1 re-treated with penicillin and N.A.B.—response negative
- 1 with moderate C.S.F. changes is treated with Bzph. then penicillin and N.A.B. shows improvement in C.S.F.—blood remains positive

(c) 36

- 22 positive—not yet re-treated
- 7 show definite signs of responding with levamisole
- 7 with no C.S.F. changes. 24 show 2 is treated with penicillin and N.A.B. and levamisole positive, and the following 4 not yet re-treated
- 2 with marked C.S.F. changes. 1 treated with levamisole and further penicillin and N.A.B. with considerable improvement in C.S.F.
- 2 with more C.S.F. changes. 22 subsequently showed some improvement in C.S.F.
 - 1 re-treated with penicillin shows marked improvement in C.S.F.
 - 1 re-treated with N.A.B. slight improvement
 - 2 Not yet re-treated.
- 2 Bzpham.
 - 2 with no C.S.F. changes. Not yet re-treated
 - 1 with slight C.S.F. changes is treated with N.A.B. and lev.

TABLE VII—C.S.F. LEADERSHIP

	1947	1948
Total number	764	455
Absentee	28 (3 per cent)	22 (5 per cent)

1. C.S.F. Analysis (44, 1948)

Average, follow up, better results

4 very negative primary. Minor changes in C.S.F. all normal on repetition + follow.

Further treatment

4 very positive primary

1 normal on repetition took up further treatment

1 with still numerous remaining repetitions

1 positive W.B. still numerous—re treated 7-8 MU. C.S.F. normal on 1st month

12 later (22 C.S.F. examinations) 1 treated with penicillin before C.S.F.

4 re treated with 8-10 MU penicillin C.S.F. became normal on all

1 normal on repetition without further treatment

1 re treated with penicillin and sodium.

1 still showed still numerous in third C.S.F. being re treated with 8-10 MU penicillin

1 had C.S.F. W.B. positive. Large changes—second C.S.F. normal—third C.S.F. W.B. positive. Large—normal. Awaiting a treatment

1 excluded with other diseases. Took showed some improvement

1 completed—no time

Follow 1948

Average following more results

5 very negative primary. Minor changes only in C.S.F.

3 normal on repetition with no further treatment

1 awaiting repetition

7 very positive primary

5 minor C.S.F. Changes only

1 normal on repetition no further treatment

1 treated, repetition

3 excluded W.B.—all normal on repetition without further treatment

1 positive W.B. and large changes. Excluded with 8-10 MU penicillin W.B. and W.B. C.S.F. now normal

14 later (20 C.S.F. examinations) 12 treated with penicillin before C.S.F.

5 were with normal C.S.F.

1 positive W.B. Large—4/10 Treated with 8-10 MU penicillin. W.B. 1-2 gm. No 2-3 gm. Deposited subcutaneously. C.S.F. now normal

1 positive W.B. Large 10/100000 Treated 3 courses 4-6 MU each course. Weight 1-10 gm. S.A.B. 1-2 gm. C.S.F. now normal

1 treated with 8-10 MU penicillin before C.S.F. C.S.F. positive W.B. Large 10/1100000 No treated 8-10 MU penicillin. C.S.F. now normal

10 with clearing C.S.F. changes

1 positive W.B. Large 10/200000 Treated with 120 MU penicillin S.A.B.—length 5-6 gm. Excluded without treatment. Awaiting second C.S.F.

1 large C.S.F. changes Large 100/100000 W.B. positive. Treated with 4-6 MU pen. 10-15 and sodium. Second course 5 S.B. and formula. C.S.F. shows very noticeable improvement Large 10/1100000 W.B. positive. Being re treated with 8-10 MU penicillin

1 W.B. positive. Large 10/10 Treated with 4 MU penicillin. C.S.F. now shows increased cells only

Excretory	
Penicillin alone	57
Penicillin, Maph. and bio.	2
Penicillin, N. A. B., and bio.	2
Penicillin, Maph., N. A. B., and bio.	1
—	—
—	58

- 12 involved men (11 of them had a second course of penicillin).
 2 have relapsed and are being re-treated with penicillin and N. A. B.
 1 reported with a rash.
 18 remain negative and are awaiting final check-up.
 2 still positive, after re-treatment with penicillin and N. A. B.

F. de S.	
Penicillin alone	4
Penicillin, Maph. and bio.	4
Penicillin and N. A. B.	7
Penicillin, Maph. and N. A. B.	18
Penicillin and bio.	1
—	—
—	38

- 9 involved men (all but one spontaneously). 1 of them had a second course of N. A. B. and penicillin.
 5 reported to a venereal test 1948.
 8 have been re-treated with liver therapy (3 males and 5 females) and penicillin and Maph. and biochem. All greatly improved.

Excretors have been re-treated with penicillin (some two or three times), serum and thioamids and have shown improvement or are considered a final positive.

ANALYSIS OF REACTIONS OF NEW CHEMICAL SYRIVAN REACTIONS

The number of cases treated with only penicillin penicillin has now reached 58. The penicillin blood levels have been very satisfactory, although in two cases the level, which shows the maximum satisfactory level, has been low. Both these cases, however, have made a satisfactory response and serological response.

A severe reaction has occurred in one case and a mild reaction in two cases. Symptoms have been a typical therapy with mild fever, urticaria and edema, confined mostly to the face, hands and feet. The severe case developed a massive edema of the face and neck and caused some anxiety. All cases occurred when approximately 50,000 units had been given. They responded, though somewhat slowly, to adrenaline and the anti-histamine drugs, with little edema to allow the final reaction.

The number of reactions is slightly higher than has occurred with crystalline penicillin.^{2, 4, 11}

[illegible]

The game was played until the system found its best performance against some optimal runs at fixed level supported by other players, not except agents involved in the current round.

[illegible]

1. *Journal of Management Studies*, 1996, 33, 1, 1-14.

[illegible]

100

The condition described was thought to be new, and two additional cases were found in the English literature. Apparently, it was first described by Hockley (1987) who had experience of 7 cases. In each case the condition followed trauma, which was in the nature of a placing blow to the patella. Hockley found that a portion of tissue was separated from the patella and came to lie in the joint area of the knee.

Readings (1911) (1912) has noted that the fracture is in the nature of a *clavus* or osteoblastic metastasis, immediately and locally applied. He describes the condition occurring in lumberjacks struck on the lower ribs of the knee by part of a falling tree while falling under. Adigun (1911) who described the condition noted the compressive stress applied to the patella and pointed out that there might be an associated injury to the lateral femoral condyle. He recommended removal of the knee joint.

In this case here described there was no history of previous injury to the knee. Immediately after the accident the patella was found to be dislocated laterally and its lower border broken away. This fits the condition found at operation, namely, the vertical line of capsule or of synovium. It appears well noted that in the early hours after the knee (patella) together with a small lateral femoral condyle to other of fairly near lateral displacement of the patella.

The weight and movement of a swinging leg of knee, involving the lower end of the femur, would seem to be a part of the kind of force exerted, described as likely to produce this type of injury.

It is interesting to note the comparatively rapid change in the nature of the knee joint after dislocation. The cartilage cells, however, continue to be surrounded by synovial fluid and to grow, whereas the bony part of the knee joint remains unchanged in shape.

The knee joint, when removed, is compared with the supposed site of origin but it will not exactly correspond with this. In any case a search for further knee joints is made.

My thanks are due to Surgeon-Captain A. A. Pender, R.N., R.N. for permission to report this case, and to the staff of the Royal Naval Orthopaedic Rehabilitation Centre for their part in its after treatment.

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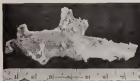
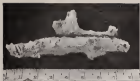
HETEROTOPIC OSSIFICATION IN ABDOMINAL WALL

BY

Surgeon-Commander P. R. FRASER, M.D., M.B., Ch.B., R.N.

Anteriorly bone formation in muscle is most commonly found in the region of the elbow joint following fracture. However, it can occur after any fracture and even in the presence of severe damage with loss of bone formed in the bone mass. The process can be explained by the concept of metachondrocytes from the fracture site. That the metachondrocytes follow any muscle injury remote from bone, perhaps not so well appreciated and perhaps a metaphor of cartilage from bone cells.

Cases have been reported following minor penetrating injuries of muscle



without heating and it is not necessary to be cladured with telluric, since no good specimens (Lewis, 1936). It is a considerably fossiliferous species from the Middle Devonian (18-2) and generally follows the same transverse of Middle Devonian in certain animals (Hoggar, 1911). Spinal from brachiopods, brachiopods have a most frequently seen in brachiopods and according to Lloyd (1901) and Lewis (1936) may be demonstrated. It is also associated in certain long brachiopods, brachiopods and brachiopods and may be associated with very long standing columns deposits. According to Lewis (1936) brachiopods following brachiopods brachiopods as a rule less than their maximum growth and removal should not be attempted until the brachiopods place.

The following can also show years ago is a good example of an additional specimen.

the triangle being horizontally across the lower end of the sternum with the apex directed upwards. In 17 of these the triangle was roughly equilateral, the average side being 2 in., the range being from 1 in. to 3½ in., and in the other 2 was just like the other being 3 in. + 3 in. + 2 in. and 3 in. + 2 in. + 2 in. In 7 cases the depression was diamond-shaped, each side being 2 in. long and in the remaining 7 it was circular, the average diameter being 2 in., the range being 1½ in. to 2½ in. The average depth of the depression was ½ in. in the shallowest recorded being ¼ in. and the deepest 1½ in. There were 7 cases more with a depression of 1 in. or more. This is a rather higher incidence than that recorded by Stansbury (1917) who found a more exact average 1,120 school children, but did not mention the number of children cases found. One subject had a prominent vesicular-type bump just below the depression in the middle of the base of the triangle, being about ½ in. in diameter and rising ½ in. above the level of the remainder of the sternum, which was stated to have appeared after an attack of bronchitis in childhood.

An attempt was made to study the inheritance of the condition and each patient was asked whether he knew it to be present in any relatives. The results were disappointing, as only 6 of the patients could give any information at all and of these only one pedigree goes below, covered three generations. In this case the patient was in the middle generation. He knew that his father was affected, and that his mother and two half-brothers were not. The condition of his sister was not known, one of his two sons was affected. Though it is very difficult to get reliable information in this way it is always worth while asking for the family history in the hope that a



patient may come or later be able to provide a full one. The son obtained above, though limited, shows transmission through three generations and is compatible with transmission as a dominant characteristic. Stansbury (1917) was able to trace a family suggestive dominant transmission through four generations.

In none of these cases was a particular pathological examination of the heart made though all had had a routine routine chest X-ray without any abnormalities being detected, and in no case was any gross abnormality of the heart discovered clinically. In a later case, however, in which the anterior posterior diameter of the chest cavity is considerably diminished the heart may be exposed and give a superficial impression of enlargement, as may be locally displaced to the left. This is of considerable significance as was pointed out by Keane (1946) who recorded observations on 26 cases referred to him for an explanation of certain signs associated with the heart, with the knowledge that the deformity of the chest was present but without appreciation that the two conditions might be related. Of these cases rheumatic heart disease had been diagnosed in 5, termination of pregnancy advised in 1, chest grading 16 III or IV, the remaining hearts in 4, and one boy of 19 had been regarded by the chest physician as a normal student, and then rejected.

in three different/purified breeds after an intervention that was supplied by a radiologist—i.e. pure in the effect that there was great enlargement of the heart. In none of these cases did Evans feel any negative effects of the heart.

This is also a condition in which the therapeutic value of simple resuscitation can be well demonstrated. At least half of these subjects were members of the nature of the condition: they had not previously been "put up" because of it by a doctor, and had been too tired to break the subject themselves. Thus, looked upon as a "deficient," so much it is technically but different" is one of those words which is given a particular meaning significance by most patients (it "grows") and which is therefore inappropriate in these cases.

None of them did their best to conceal their "deficiency," though this was not easy to do, and I noticed one officer in particular who never allowed himself to be seen without at least a couple to hold his chest. Partly on this account they were all aware that the condition is relatively common. This officer, however, apparently had no opinion about breathing on his "deficiency," so his children for he also revealed me in some ways only three months after his marriage because his wife had not yet conceived.

All seemed pleased to have no symptoms, to show their weakness and were much relieved to hear of the comparative frequency, and to learn that it was really no more a "deficiency" in the sense in which they used the word than leg feet, short legs or long ones.

DISCUSSION

Two sets of symptoms of congenital defects about occurring amongst VAD officers and ratings are described.

The condition is considered to be of interest because (a) its occurrence brings a little variety into routine study of congenital defects; (b) it is apparently selected as a dominant characteristic; (c) it can have a significant effect on the position of the heart; and (d) it illustrates the therapeutic value of simple resuscitation in appropriate cases.

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1000

1. *How many times have you been to the beach in the last year?* (1 = never, 2 = once, 3 = twice, 4 = three or more times)

1995), and the current paper extends these previous studies by comparing 117,460 patients from 1990-1994 with those from 1995-1999. In our study, we found that the prevalence of depression increased from 1990-1994 to 1995-1999, and that the prevalence of depression was higher among patients with a history of depression than among patients without a history of depression.

It is important to note that the above results are based on the assumption that the data are normally distributed. If the data are not normally distributed, the results may be biased. Therefore, it is important to check the normality of the data before using the above methods.

[illegible]

to the extent that the Commission is not satisfied that the applicant has provided sufficient information to enable it to make a decision on the application, it may request the applicant to provide further information. The Commission may also request the applicant to provide further information if it is not satisfied that the applicant has provided sufficient information to enable it to make a decision on the application.

[illegible]

¹ λ_{max} (nm): 280 (molar absorptivity $10^4 \text{ M}^{-1} \text{ cm}^{-1}$), 295 (1.1), 310 (1.1), 320 (1.1), 330 (1.1), 340 (1.1), 350 (1.1), 360 (1.1), 370 (1.1), 380 (1.1), 390 (1.1), 400 (1.1), 410 (1.1), 420 (1.1), 430 (1.1), 440 (1.1), 450 (1.1), 460 (1.1), 470 (1.1), 480 (1.1), 490 (1.1), 500 (1.1), 510 (1.1), 520 (1.1), 530 (1.1), 540 (1.1), 550 (1.1), 560 (1.1), 570 (1.1), 580 (1.1), 590 (1.1), 600 (1.1), 610 (1.1), 620 (1.1), 630 (1.1), 640 (1.1), 650 (1.1), 660 (1.1), 670 (1.1), 680 (1.1), 690 (1.1), 700 (1.1), 710 (1.1), 720 (1.1), 730 (1.1), 740 (1.1), 750 (1.1), 760 (1.1), 770 (1.1), 780 (1.1), 790 (1.1), 800 (1.1), 810 (1.1), 820 (1.1), 830 (1.1), 840 (1.1), 850 (1.1), 860 (1.1), 870 (1.1), 880 (1.1), 890 (1.1), 900 (1.1), 910 (1.1), 920 (1.1), 930 (1.1), 940 (1.1), 950 (1.1), 960 (1.1), 970 (1.1), 980 (1.1), 990 (1.1), 1000 (1.1).

¹ The authors are indebted to Prof. F. H. C. Craynest for his critical reading of the manuscript and to Dr. J. P. M. van der Vliet for his valuable suggestions.

[illegible]

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© 1967 Massachusetts Medical Society

It is important to note that this book is not merely a collection of facts and figures, but a carefully selected and edited volume that provides a comprehensive overview of the field. The book is divided into two main parts: the first part covers the basic concepts and principles of the field, while the second part focuses on the practical applications of these concepts. The book is written in a clear and concise style, making it accessible to a wide range of readers. The book is a valuable resource for anyone interested in the field, and it is highly recommended for those who are looking for a comprehensive overview of the field.

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1. $\frac{1}{2} \log \frac{1}{2}$ 2. $\frac{1}{2} \log \frac{1}{2}$ 3. $\frac{1}{2} \log \frac{1}{2}$ 4. $\frac{1}{2} \log \frac{1}{2}$ 5. $\frac{1}{2} \log \frac{1}{2}$ 6. $\frac{1}{2} \log \frac{1}{2}$ 7. $\frac{1}{2} \log \frac{1}{2}$ 8. $\frac{1}{2} \log \frac{1}{2}$ 9. $\frac{1}{2} \log \frac{1}{2}$ 10. $\frac{1}{2} \log \frac{1}{2}$

the authors of the 1995 study, "The 1995 study was limited by the fact that the data were not representative of the entire population of U.S. firms." The authors of the 1995 study also noted that the data were not representative of the entire population of U.S. firms.

Many studies have reported improved performance due to the use of the hand-held device. For example, Smith et al. (1991) found that the use of the device improved the performance of a simulated surgical task. Similarly, Smith et al. (1992) found that the use of the device improved the performance of a simulated surgical task. In addition, Smith et al. (1993) found that the use of the device improved the performance of a simulated surgical task. Finally, Smith et al. (1994) found that the use of the device improved the performance of a simulated surgical task.

We acknowledge with thanks receipt of the following publications:—

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English Literature.—A list consisting of 117 pages in the *Author's* is enclosed. The report has been sent to the

News of the Service

WINNING MEDICAL TROPHY MATCH 1945

Two teams challenge cups accepted for annually by Nursing Officers of the Navy Arms and Air Force was won this year by Miss Sharkey and Miss Bennett, Nursing Sisters, Q.A.R.N.N.C. The match took place on the 29th July at the R.A.F. Hospital Station in delightful surroundings and good weather. The standard of play had improved since last year and the winners had their work cut out to defeat their opponents. The Cup was presented by Dame Katherine Webb (D.B.E., R.R.C.) who was one of the three original donors. Among a large number of guests present were the Medical Director, General of the Navy, and Mrs. Commandant Miss Penelope Matron in Chief and Principal Matron Miss Diller. Miss Sharkey and Miss Bennett to support the Q.A.R.N.N.C. and amongst the excellent party given by the Matron in Chief and Nursing Officers P.N.R.A.F.N.S.

R.N. TENNIS CHAMPIONSHIPS AT WIMBLEDON 1945

Miss Barbara Bowley (R.R.C.) V.A.D. Commandant with the singles and with Green Bird the doubles in the R.N.S. tennis championships which was held at Wimbledon. Both were selected to play for the Women's Service of the Royal Navy in the later Services competition.

R.N. SWIMMING CHAMPIONSHIPS

In swimming, Miss J. Markham Head V.A.D. and Miss C. B. Pearson (Grade I V.A.D.) reached the Portsmouth Command level and were included in the R.N.S. team for an outside event.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

A review of the above literature has been opened at Plymouth and the following efforts and committees have been duly alerted for the meeting to discuss:

PHILIP J. HENRY, Surgeon General, Adjutant General, U.S. Army, 1904-1910, U.S. Army, 1910-1914, U.S. Army, 1914-1918, U.S. Army, 1918-1922, U.S. Army, 1922-1926, U.S. Army, 1926-1930, U.S. Army, 1930-1934, U.S. Army, 1934-1938, U.S. Army, 1938-1942, U.S. Army, 1942-1946, U.S. Army, 1946-1950, U.S. Army, 1950-1954, U.S. Army, 1954-1958, U.S. Army, 1958-1962, U.S. Army, 1962-1966, U.S. Army, 1966-1970, U.S. Army, 1970-1974, U.S. Army, 1974-1978, U.S. Army, 1978-1982, U.S. Army, 1982-1986, U.S. Army, 1986-1990, U.S. Army, 1990-1994, U.S. Army, 1994-1998, U.S. Army, 1998-2002, U.S. Army, 2002-2006, U.S. Army, 2006-2010, U.S. Army, 2010-2014, U.S. Army, 2014-2018, U.S. Army, 2018-2022, U.S. Army, 2022-2026, U.S. Army, 2026-2030, U.S. Army, 2030-2034, U.S. Army, 2034-2038, U.S. Army, 2038-2042, U.S. Army, 2042-2046, U.S. Army, 2046-2050, U.S. Army, 2050-2054, U.S. Army, 2054-2058, U.S. Army, 2058-2062, U.S. Army, 2062-2066, U.S. Army, 2066-2070, U.S. Army, 2070-2074, U.S. Army, 2074-2078, U.S. Army, 2078-2082, U.S. Army, 2082-2086, U.S. Army, 2086-2090, U.S. Army, 2090-2094, U.S. Army, 2094-2098, U.S. Army, 2098-2102, U.S. Army, 2102-2106, U.S. Army, 2106-2110, U.S. Army, 2110-2114, U.S. Army, 2114-2118, U.S. Army, 2118-2122, U.S. Army, 2122-2126, U.S. Army, 2126-2130, U.S. Army, 2130-2134, U.S. Army, 2134-2138, U.S. Army, 2138-2142, U.S. Army, 2142-2146, U.S. Army, 2146-2150, U.S. Army, 2150-2154, U.S. Army, 2154-2158, U.S. Army, 2158-2162, U.S. Army, 2162-2166, U.S. Army, 2166-2170, U.S. Army, 2170-2174, U.S. Army, 2174-2178, U.S. Army, 2178-2182, U.S. Army, 2182-2186, U.S. Army, 2186-2190, U.S. Army, 2190-2194, U.S. Army, 2194-2198, U.S. Army, 2198-2202, U.S. Army, 2202-2206, U.S. Army, 2206-2210, U.S. Army, 2210-2214, U.S. Army, 2214-2218, U.S. Army, 2218-2222, U.S. Army, 2222-2226, U.S. Army, 2226-2230, U.S. Army, 2230-2234, U.S. Army, 2234-2238, U.S. Army, 2238-2242, U.S. Army, 2242-2246, U.S. Army, 2246-2250, U.S. Army, 2250-2254, U.S. Army, 2254-2258, U.S. Army, 2258-2262, U.S. Army, 2262-2266, U.S. Army, 2266-2270, U.S. Army, 2270-2274, U.S. Army, 2274-2278, U.S. Army, 2278-2282, U.S. Army, 2282-2286, U.S. Army, 2286-2290, U.S. Army, 2290-2294, U.S. Army, 2294-2298, U.S. Army, 2298-2302, U.S. Army, 2302-2306, U.S. Army, 2306-2310, U.S. Army, 2310-2314, U.S. Army, 2314-2318, U.S. Army, 2318-2322, U.S. Army, 2322-2326, U.S. Army, 2326-2330, U.S. Army, 2330-2334, U.S. Army, 2334-2338, U.S. Army, 2338-2342, U.S. Army, 2342-2346, U.S. Army, 2346-2350, U.S. Army, 2350-2354, U.S. Army, 2354-2358, U.S. Army, 2358-2362, U.S. Army, 2362-2366, U.S. Army, 2366-2370, U.S. Army, 2370-2374, U.S. Army, 2374-2378, U.S. Army, 2378-2382, U.S. Army, 2382-2386, U.S. Army, 2386-2390, U.S. Army, 2390-2394, U.S. Army, 2394-2398, U.S. Army, 2398-2402, U.S. Army, 2402-2406, U.S. Army, 2406-2410, U.S. Army, 2410-2414, U.S. Army, 2414-2418, U.S. Army, 2418-2422, U.S. Army, 2422-2426, U.S. Army, 2426-2430, U.S. Army, 2430-2434, U.S. Army, 2434-2438, U.S. Army, 2438-2442, U.S. Army, 2442-2446, U.S. Army, 2446-2450, U.S. Army, 2450-2454, U.S. Army, 2454-2458, U.S. Army, 2458-2462, U.S. Army, 2462-2466, U.S. Army, 2466-2470, U.S. Army, 2470-2474, U.S. Army, 2474-2478, U.S. Army, 2478-2482, U.S. Army, 2482-2486, U.S. Army, 2486-2490, U.S. Army, 2490-2494, U.S. Army, 2494-2498, U.S. Army, 2498-2502, U.S. Army, 2502-2506, U.S. Army, 2506-2510, U.S. Army, 2510-2514, U.S. Army, 2514-2518, U.S. Army, 2518-2522, U.S. Army, 2522-2526, U.S. Army, 2526-2530, U.S. Army, 2530-2534, U.S. Army, 2534-2538, U.S. Army, 2538-2542, U.S. Army, 2542-2546, U.S. Army, 2546-2550, U.S. Army, 2550-2554, U.S. Army, 2554-2558, U.S. Army, 2558-2562, U.S. Army, 2562-2566, U.S. Army, 2566-2570, U.S. Army, 2570-2574, U.S. Army, 2574-2578, U.S. Army, 2578-2582, U.S. Army, 2582-2586, U.S. Army, 2586-2590, U.S. Army, 2590-2594, U.S. Army, 2594-2598, U.S. Army, 2598-2602, U.S. Army, 2602-2606, U.S. Army, 2606-2610, U.S. Army, 2610-2614, U.S. Army, 2614-2618, U.S. Army, 2618-2622, U.S. Army, 2622-2626, U.S. Army, 2626-2630, U.S. Army, 2630-2634, U.S. Army, 2634-2638, U.S. Army, 2638-2642, U.S. Army, 2642-2646, U.S. Army, 2646-2650, U.S. Army, 2650-2654, U.S. Army, 2654-2658, U.S. Army, 2658-2662, U.S. Army, 2662-2666, U.S. Army, 2666-2670, U.S. Army, 2670-2674, U.S. Army, 2674-2678, U.S. Army, 2678-2682, U.S. Army, 2682-2686, U.S. Army, 2686-2690, U.S. Army, 2690-2694, U.S. Army, 2694-2698, U.S. Army, 2698-2702, U.S. Army, 2702-2706, U.S. Army, 2706-2710, U.S. Army, 2710-2714, U.S. Army, 2714-2718, U.S. Army, 2718-2722, U.S. Army, 2722-2726, U.S. Army, 2726-2730, U.S. Army, 2730-2734, U.S. Army, 2734-2738, U.S. Army, 2738-2742, U.S. Army, 2742-2746, U.S. Army, 2746-2750, U.S. Army, 2750-2754, U.S. Army, 2754-2758, U.S. Army, 2758-2762, U.S. Army, 2762-2766, U.S. Army, 2766-2770, U.S. Army, 2770-2774, U.S. Army, 2774-2778, U.S. Army, 2778-2782, U.S. Army, 2782-2786, U.S. Army, 2786-2790, U.S. Army, 2790-2794, U.S. Army, 2794-2798, U.S. Army, 2798-2802, U.S. Army, 2802-2806, U.S. Army, 2806-2810, U.S. Army, 2810-2814, U.S. Army, 2814-2818, U.S. Army, 2818-2822, U.S. Army, 2822-2826, U.S. Army, 2826-2830, U.S. Army, 2830-2834, U.S. Army, 2834-2838, U.S. Army, 2838-2842, U.S. Army, 2842-2846, U.S. Army, 2846-2850, U.S. Army, 2850-2854, U.S. Army, 2854-2858, U.S. Army, 2858-2862, U.S. Army, 2862-2866, U.S. Army, 2866-2870, U.S. Army, 2870-2874, U.S. Army, 2874-2878, U.S. Army, 2878-2882, U.S. Army, 2882-2886, U.S. Army, 2886-2890, U.S. Army, 2890-2894, U.S. Army, 2894-2898, U.S. Army, 2898-2902, U.S. Army, 2902-2906, U.S. Army, 2906-2910, U.S. Army, 2910-2914, U.S. Army, 2914-2918, U.S. Army, 2918-2922, U.S. Army, 2922-29

From the Department of Otorhinolaryngology, University of California, San Francisco, California.

[illegible][illegible]

Scenario	2010	2020	2030	2040	2050	2060	2070	2080	2090
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Investigation: Moore C, Di Pajo H, Giani M, Camp A, Truscott B, Moore
and J. Ross

Membership is now 100 and meetings are held monthly, at the R. N. Hill Community Hall (across from Plymouth) on the second Tuesday of each month (no meetings are held in June).

For further details, visit the abstracted site <http://www.elsevier.com/locate/locate/locate>

1000

^aValues are given as mean ± SD.

Revised by Lt. Admiral W. W. Morris, M.D. filed on the 14 June 1968. There is no change in the text of the 1959 publication and retained the 1959 Medical Service Manual as the basis for the 1968 revision. The new, expanded, 11th edition was published in November, 1969.

* He was with the 71st Airborne Division on 1945. Discharged in January, 1946, he is employed in the States Dept. in the New York office.

Figure 10. First World War Surgeon. 10 is additional third digit, 1 is 100% (roughly 1000 square miles) and 1000 is 100% (roughly 1000 square miles) and 1000 is 100% (roughly 1000 square miles).

[illegible]

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[illegible]

1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 26

¹ See, e.g., *United States v. Gurnea*, 19 F.3d 1011, 1012 (11th Cir. 1994) (affirming a conviction for conspiracy to defraud a bank, where the defendant was a bank teller who was paid to help a customer obtain a loan from the bank).

1947-1948, 1949-1950, 1951-1952, 1953-1954, 1955-1956, 1957-1958, 1959-1960, 1961-1962, 1963-1964, 1965-1966, 1967-1968, 1969-1970, 1971-1972, 1973-1974, 1975-1976, 1977-1978, 1979-1980, 1981-1982, 1983-1984, 1985-1986, 1987-1988, 1989-1990, 1991-1992, 1993-1994, 1995-1996, 1997-1998, 1999-2000, 2001-2002, 2003-2004, 2005-2006, 2007-2008, 2009-2010, 2011-2012, 2013-2014, 2015-2016, 2017-2018, 2019-2020, 2021-2022, 2023-2024, 2025-2026, 2027-2028, 2029-2030, 2031-2032, 2033-2034, 2035-2036, 2037-2038, 2039-2040, 2041-2042, 2043-2044, 2045-2046, 2047-2048, 2049-2050, 2051-2052, 2053-2054, 2055-2056, 2057-2058, 2059-2060, 2061-2062, 2063-2064, 2065-2066, 2067-2068, 2069-2070, 2071-2072, 2073-2074, 2075-2076, 2077-2078, 2079-2080, 2081-2082, 2083-2084, 2085-2086, 2087-2088, 2089-2090, 2091-2092, 2093-2094, 2095-2096, 2097-2098, 2099-2100, 2101-2102, 2103-2104, 2105-2106, 2107-2108, 2109-2110, 2111-2112, 2113-2114, 2115-2116, 2117-2118, 2119-2120, 2121-2122, 2123-2124, 2125-2126, 2127-2128, 2129-2130, 2131-2132, 2133-2134, 2135-2136, 2137-2138, 2139-2140, 2141-2142, 2143-2144, 2145-2146, 2147-2148, 2149-2150, 2151-2152, 2153-2154, 2155-2156, 2157-2158, 2159-2160, 2161-2162, 2163-2164, 2165-2166, 2167-2168, 2169-2170, 2171-2172, 2173-2174, 2175-2176, 2177-2178, 2179-2180, 2181-2182, 2183-2184, 2185-2186, 2187-2188, 2189-2190, 2191-2192, 2193-2194, 2195-2196, 2197-2198, 2199-2200, 2201-2202, 2203-2204, 2205-2206, 2207-2208, 2209-2210, 2211-2212, 2213-2214, 2215-2216, 2217-2218, 2219-2220, 2221-2222, 2223-2224, 2225-2226, 2227-2228, 2229-2230, 2231-2232, 2233-2234, 2235-2236, 2237-2238, 2239-2240, 2241-2242, 2243-2244, 2245-2246, 2247-2248, 2249-2250, 2251-2252, 2253-2254, 2255-2256, 2257-2258, 2259-2260, 2261-2262, 2263-2264, 2265-2266, 2267-2268, 2269-2270, 2271-2272, 2273-2274, 2275-2276, 2277-2278, 2279-2280, 2281-2282, 2283-2284, 2285-2286, 2287-2288, 2289-2290, 2291-2292, 2293-2294, 2295-2296, 2297-2298, 2299-2300, 2301-2302, 2303-2304, 2305-2306, 2307-2308, 2309-2310, 2311-2312, 2313-2314, 2315-2316, 2317-2318, 2319-2320, 2321-2322, 2323-2324, 2325-2326, 2327-2328, 2329-2330, 2331-2332, 2333-2334, 2335-2336, 2337-2338, 2339-2340, 2341-2342, 2343-2344, 2345-2346, 2347-2348, 2349-2350, 2351-2352, 2353-2354, 2355-2356, 2357-2358, 2359-2360, 2361-2362, 2363-2364, 2365-2366, 2367-2368, 2369-2370, 2371-2372, 2373-2374, 2375-2376, 2377-2378, 2379-2380, 2381-2382, 2383-2384, 2385-2386, 2387-2388, 2389-2390, 2391-2392, 2393-2394, 2395-2396, 2397-2398, 2399-2400, 2401-2402, 2403-2404, 2405-2406, 2407-2408, 2409-2410, 2411-2412, 2413-2414, 2415-2416, 2417-2418, 2419-2420, 2421-2422, 2423-2424, 2425-2426, 2427-2428, 2429-2430, 2431-2432, 2433-2434, 2435-2436, 2437-2438, 2439-2440, 2441-2442, 2443-2444, 2445-2446, 2447-2448, 2449-2450, 2451-2452, 2453-2454, 2455-2456, 2457-2458, 2459-2460, 2461-2462, 2463-2464, 2465-2466, 2467-2468, 2469-2470, 2471-2472, 2473-2474, 2475-2476, 2477-2478, 2479-2480, 2481-2482, 2483-2484, 2485-2486, 2487-2488, 2489-2490, 2491-2492, 2493-2494, 2495-2496, 2497-2498, 2499-2500, 2501-2502, 2503-2504, 2505-2506, 2507-2508, 2509-2510, 2511-2512, 2513-2514, 2515-2516, 2517-2518, 2519-2520, 2521-2522, 2523-2524, 2525-2526, 2527-2528, 2529-2530, 2531-2532, 2533-2534, 2535-2536, 2537-2538, 2539-2540, 2541-2542, 2543-2544, 2545-2546, 2547-2548, 2549-2550, 2551-2552, 2553-2554, 2555-2556, 2557-2558, 2559-2560, 2561-2562, 2563-2564, 2565-2566, 2567-2568, 2569-2570, 2571-2572, 2573-2574, 2575-2576, 2577-2578, 2579-2580, 2581-2582, 2583-2584, 2585-2586, 2587-2588, 2589-2590, 2591-2592, 2593-2594, 2595-2596, 2597-2598, 2599-2600, 2601-2602, 2603-2604, 2605-2606, 2607-2608, 2609-2610, 2611-2612, 2613-2614, 2615-2616, 2617-2618, 2619-2620, 2621-2622, 2623-2624, 2625-2626, 2627-2628, 2629-2630, 2631-2632, 2633-2634, 2635-2636, 2637-2638, 2639-2640, 2641-2642, 2643-2644, 2645-2646, 2647-2648, 2649-2650, 2651-2652, 2653-2654, 2655-2656, 2657-2658, 2659-2660, 2661-2662, 2663-2664, 2665-2666, 2667-2668, 2669-2670, 2671-2672, 2673-2674, 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2857-2858, 2859-2860, 2861-2862, 2863-2864, 2865-2866, 2867-2868, 2869-2870, 2871-2872, 2873-2874, 2875-2876, 2877-2878, 2879-2880, 2881-2882, 2883-2884, 2885-2886, 2887-2888, 2889-2890, 2891-2892, 2893-2894, 2895-2896, 2897-2898, 2899-2900, 2901-2902, 2903-2904, 2905-2906, 2907-2908, 2909-2910, 2911-2912, 2913-2914, 2915-2916, 2917-2918, 2919-2920, 2921-2922, 2923-2924, 2925-2926, 2927-2928, 2929-2930, 2931-2932, 2933-2934, 2935-2936, 2937-2938, 2939-2940, 2941-2942, 2943-2944, 2945-2946, 2947-2948, 2949-2950, 2951-2952, 2953-2954, 2955-2956, 2957-2958, 2959-2960, 2961-2962, 2963-2964, 2965-2966, 2967-2968, 2969-2970, 2971-2972, 2973-2974, 2975-2976, 2977-2978, 2979-2980, 2981-2982, 2983-2984, 2985-2986, 2987-2988, 2989-2990, 2991-2992, 2993-2994, 2995-2996, 2997-2998, 2999-3000, 3001-3002, 3003-3004, 3005-3006, 3007-3008, 3009-3010, 3011-3012, 3013-3014, 3015-3016, 3017-3018, 3019-3020, 3021-3022, 3023-3024, 3025-3026, 3027-3028, 3029-3030, 3031-3032, 3033-3034, 3035-3036, 3037-3038, 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3585-3586, 3587-3588, 3589-3590, 3591-3592, 3593-3594, 3595-3596, 3597-3598, 3599-3600, 3601-3602, 3603-3604, 3605-3606, 3607-3608, 3609-3610, 3611-3612, 3613-3614, 3615-3616, 3617-3618, 3619-3620, 3621-3622, 3623-3624, 3625-3626, 3627-3628, 3629-3630, 3631-3632, 3633-3634, 3635-3636, 3637-3638, 3639-3640, 3641-3642, 3643-3644, 3645-3646, 3647-3648, 3649-3650, 3651-3652, 3653-3654, 3655-3656, 3657-3658, 3659-3660, 3661-3662, 3663-3664, 3665-3666, 3667-3668, 3669-3670, 3671-3672, 3673-3674, 3675-3676, 3677-3678, 3679-3680, 3681-3682, 3683-3684, 3685-3686, 3687-3688, 3689-3690, 3691-3692, 3693-3694, 3695-3696, 3697-3698, 3699-3700, 3701-3702, 3703-3704, 3705-3706, 3707-3708, 3709-3710, 3711-3712, 3713-3714, 3715-3716, 3717-3718, 3719-3720, 3721-3722, 3723-3724, 3725-3726, 3727-3728, 3729-3730, 3731-3732, 3733-3734, 3735-3736, 3737-3738, 3739-3740, 3741-3742, 3743-3744, 3745-3746, 3747-3748, 3749-3750, 3751-3752, 3753-3754, 3755-3756, 3757-3758, 3759-3760, 3761-3762, 3763-3764, 3765-3766, 3767-3768, 3769-3770, 3771-3772, 3773-3774, 3775-3776, 3777-3778, 3779-3780, 3781-3782, 3783-3784, 3785-3786, 3787-3788, 3789-3790, 3791-3792, 3793-3794, 3795-3796, 3797-3798, 3799-3800, 3801-3802, 3803-3804, 3805-3806, 3807-3808, 3809-3810, 3811-3812, 3813-3814, 3815-3816, 3817-3818, 3819-3820, 3821-3822, 3823-3824, 3825-3826, 3827-3828, 3829-3830, 3831-3832, 3833-3834, 3835-3836, 3837-3838, 3839-3840, 3841-3842, 3843-3844, 3845-3846, 3847-3848, 3849-3850, 3851-3852, 3853-3854, 3855-3856, 3857-3858, 3859-3860, 3861-3862, 3863-3864, 3865-3866, 3867-3868, 3869-3870, 3871-3872, 3873-3874, 3875-3876, 3877-3878, 3879-3880, 3881-3882, 3883-3884, 3885-3886, 3887-3888, 3889-3890, 3891-3892, 3893-3894, 3895-3896, 3897-3898, 3899-3900, 3901-3902, 3903-3904, 3905-3906, 3907-3908, 3909-3910, 3911-3912, 3913-3914, 3915-3916, 3917-3918, 3919-3920, 3921-3922, 3923-3924, 3925-3926, 3927-3928, 3929-3930, 3931-3932, 3933-3934, 3935-3936, 3937-3938, 3939-3940, 3941-3942, 3943-3944, 3945-3946, 3947-3948, 3949-3950, 3951-3952, 3953-3954, 3955-3956, 3957-3958, 3959-3960, 3961-3962, 3963-3964, 3965-3966, 3967-3968, 3969-3970, 3971-3972, 3973-3974, 3975-3976, 3977-3978, 3979-3980, 3981-3982, 3983-3984, 3985-3986, 3987-3988, 3989-3990, 3991-3992, 3993-3994, 3995-3996, 3997-3998, 3999-4000, 4001-4002, 4003-4004, 4005-4006, 4007-4008, 4009-4010, 4011-4012, 4013-4014, 4015-4016, 4017-4018, 4019-4020, 4021-4022, 4023-4024, 4025-4026, 4027-4028, 4029-4030, 4031-4032, 4033-4034, 4035-4036, 4037-4038, 4039-4040, 4041-4042, 4043-4044, 4045-4046, 4047-4048, 4049-4050, 4051-4052, 4053-4054, 4055-4056, 4057-4058, 4059-4060, 4061-4062, 4063-4064, 4065-4066, 4067-4068, 4069-4070, 4071-4072, 4073-4074, 4075-4076, 4077-4078, 4079-4080, 4081-4082, 4083-4084, 4085-4086, 4087-4088, 4089-4090, 4091-4092, 4093-4094, 4095-4096, 4097-4098, 4099-4100, 4101-4102, 4103-4104, 4105-4106, 4107-4108, 4109-4110, 4111-4112, 4113-4114, 4115-4116, 4117-4118, 4119-4120, 4121-4122, 4123-4124, 4125-4126, 4127-4128, 4129-4130, 4131-4132, 4133-4134, 4135-4136, 4137-4138, 4139-4140, 4141-4142, 4143-4144, 4145-4146, 4147-4148, 4149-4150, 4151-4152, 4153-4154, 4155-4156, 4157-4158, 4159-4160, 4161-4162, 4163-4164, 4165-4166, 4167-4168, 4169-4170, 4171-4172, 4173-4174, 4175-4176, 4177-

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Surgeon-Captain J. C. Hunter M.D. Ch.D. to H.M.H.S. Maine. J. F. B. Gassner M.D. Ch.D. to H.S. Hospital, Boston. J. G. Baker-O'F. M.D. B.S. to H.S. Hospital, New England. J. T. Williams M.D. B.S. to H.S. Marine, Charleston. C. D. Lippitt M.D. B.S. to H.S. Medical School, Maryland.

Surgeon-Commander R. B. Baker M.D. B.S. to H.M.S. Raleigh. F. W. Chappin M.D. B.S. to H.M.S. Columbia. J. F. Brown M.D. B.S. to H.M.S. Dudley. R. W. D. Lancaster M.D. Ch.D. M.D. M.R.C.S. L.R.C.P. to H.M.S. Osprey (as I & S Specialist). H. J. Russell M.D. B.S. to H.M.H.S. Maine. H. B. Fisher M.D. B.S. to H.S. Hospital, Plymouth (as I & S Specialist). B. S. Lewis M.D. M.R.C.S. L.R.C.P. to H.S. Hospital, Boston. F. G. Gray M.D. B.S. to H.M.H.S. Maine. C. J. F. Pearson M.D. Ch.D. L.R.C.P. to H.S. Hospital, Boston. A. S. Pease M.D. B.S. to H.M.S. Porpoise. E. James M.D. Ch.D. M.R.C.P. to H.S. J. M. Washington A.L. M.D. M.R.C.S. L.R.C.P. to H.S. Marine, Charleston (as Specialist in Radiology). F. H. E. Carr M.D. Ch.D. L.R.C.P. M.D. to H.S. Hospital, Boston (as Specialist in Radiology). J. M. Ferguson L.R.C.P. M.D. to H.M.S. Osprey.

Surgeon-Commander (J. P. S. Turner) L.D.S. to H.M.S. Eagle. I. E. Little M.D. to H.M.S. Raleigh. B. I. Ferguson I.D.S. to H.S. Marine, Devonport. W. D. James L.D.S. to H.M.S. Maine.

Surgeon (Lancashire) Commander E. J. O'Connell M.R.C.S. L.R.C.P. to H.S. Raleigh. C. A. Reed M.R.C.S. L.R.C.P. to H.M.S. Porpoise. H. W. Taylor M.D. B.S. to H.M.H.S. Maine. C. W. Russell M.D. Ch.D. to H.M.S. Osprey.

Surgeon-Lieutenant L. D. H. LeDuc M.R.C.S. L.R.C.P. to H.S. Raleigh. J. S. Nichols M.D. Ch.D. to H.S. Hospital, Charleston. J. A. Lane M.D. Ch.D. to H.M.S. Osprey. A. S. Palmer M.D. Ch.D. L.R.C.P. to H.M.S. Osprey. M. E. D. Brewster L.R.C.P. to H.M.H.S. Maine. T. A. Oak M.D. B.S. to H.M.S. Porpoise. J. S. West M.D. B.S. to H.M.S. Osprey. F. H. Wilson M.D. B.S. to H.M.S. Porpoise. W. H. Wells M.D. Ch.D. M.R.C.S. L.R.C.P. to H.M.S. Osprey. H. P. Crompton M.D. to H.M.S. Osprey. W. H. D. E. M. D. B.S. to H.M.S. Porpoise. E. H. Stevens L.R.C.P. M.D. to H.M.S. Osprey. R. W. A. C. Barton M.D. Ch.D. L.R.C.P. to H.M.S. Osprey.

Surgeon-Lieutenant (J. P. J. F. Woodhead) L.D.S. to H.S. Medical School, B.S. Rang. B.S. to H.M.H.S. Maine. D. C. Wilson-McDonald L.D.S. to H.M.S. Osprey. M. L. P. Bangs L.D.S. to H.M.S. Osprey. G. P. J. Williams L.D.S. to H.M.S. Osprey.

1896

Surgeon-Captain A. A. Powell D.F.C. M.D. Ch.D. to H.M.S. Osprey. H.S. Hospital, Boston.

Surgeon-Commander J. C. Carr L.R.C.P. M.D. to H.M.S. Osprey. J. Gordon M.D. Ch.D. M.R.C.S. L.R.C.P. to H.M.S. Osprey. J. A. Page M.D. B.S. to H.S. Hospital, Portland (as Specialist in Surgery). C. D. Cook M.D. B.S. L.R.C.P. F.R.C.S. to H.M.S. Osprey. E. J. James M.D. Ch.D. L.R.C.P. to H.S. J. M. Washington (as Ward Medical Officer). J. J. French M.D. B.S. to H.S. Secondary Portsmouth. B. C. Foster M.D. B.S. to H.M.S. Osprey. Surgeon D. W. Trist M.D. B.S. to H.S. Hospital, Plymouth. W. H. D. E. M. D. Ch.D. to H.S. Marine, Devonport.

Surgeon-Commander (J. P. G. A. C. Fisher) L.D.S. to H.S. Hospital, Boston.

Surgeon-Lieutenant-Commander R. W. Taylor M.D. Ch.D. to H.M.H.S. Maine. L. H. Parker M.D. Ch.D. to H.S. Hospital, Plymouth (as I & S Specialist). H. C. F. Martin M.D. Ch.D. to H.M.S. Osprey. W. J. Conley M.D. B.S. to H.S. Hospital, Boston (as I & S Specialist). C. S. Jones M.D. Ch.D. M.R.C.S. L.R.C.P. D.L.O. to H.M.S. Osprey. A. J. Thompson M.D. Ch.D. to H.M.S. Osprey (as Specialist in Radiology).

Surgeon-Lieutenant-Commander F. D. Gough L.D.S. to H.S. Marine, Portsmouth.

NEW BOOKS, SERIALS, AND SUPPLEMENTAL PUBLICATIONS
— 1939 —

**1111—Medical—Orthopedic Rehabilitation—Settings: U.S. and Other Regions: R.M.
/A 1111. 1111: 11. 11 (11. 1111)**

No book review is to be scheduled in the U.S. (see part 1, Rehabilitation Center
R.M.S. Medical Rehabilitation Division, 1111: 11. 1111)

2. All book review is to be completed, completed, and published, the date of
the book review is to be completed, completed, and published, the date of

3. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

4. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

5. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

1111: 11. 1111: 11. 1111

**OTHER BOOKS—NAVAL AFFAIRS, MILITARY AFFAIRS, MEDICAL AFFAIRS,
MEDICAL AFFAIRS, CONTRACTS**

1111—Medical—Blood Plasma—General

1111: 11. 1111: 11. 1111

1. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

2. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

3. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

4. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

5. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

6. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

7. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

8. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

1111—Medical—Blood Plasma—General

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3. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

4. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

5. Information: R.M.S. Medical Rehabilitation Center, 1111: 11. 1111

Adults
Children

Men and Women—1 tablet (100 mgm.) 1000
Over 12 years—1 tablet (100 mgm.) 1000
6 to 12 years—1 Tablet (50 mgm.) 500
From birth to five years— $\frac{1}{2}$ Tablet (50 mgm.) 500

2 During 1 to 12 months a marked concentration on the blood picture has been laid to make the day before entry into a malarious area and need only 1 capsule (50 mgm.) after leaving it.

3 Malaria is a complete mental prostration, at M. P. Malaya and in the Malay Peninsula, while in the case of B. F. Malaya, which may be repeated 1 to 12 times, the drug has been discontinued. In general it is considered safe to discontinue when the fever subsides (as there are incidents for proper treatment) and (4) it is a common mistake to think that the individual will be returning to a malarious area for a further course.

(I.P.O. 100/48)

(I.P.O. 100/48 is cancelled)

1949.—Haworth and Associates—London Quinine at 12th July, 1949

(H. & A. 100/48) — 9 Aug. 1949)

Synopsis

Reference: S. B. F.
[26 July 1949]

The KMO has been previously pleased to give awards and permissions for the wearing of the following decorations bestowed by Her Majesty the Queen of the Netherlands for services rendered in the Royal Netherlands Navy during the War:—

Gold Medal of Merit in the Order of Orange-Nassau with Grand
Cross (Rijk Oorlog Ereteken) James (Judge) Crookall, R.C.M., Colonial
Naval School Petty Officer, Latta, Latta, Physics, C/10521117

The following appointments are to be made to persons entitled to wear and wear only under the heading given:—

I.P.O. 100/48

To be an (Honorary) Member of the Military Division of the Most Excellent Order of the British Empire

Mr. Wilfred Henry Hollaway, Commissioner Revenue, Royal Navy

British Empire Medal

Corporal (Acting Sergeant) Leighton Thomas Bull, P. 8/10000, Royal Warrant,
Sole British Naval Petty Officer (as Acting Commissioner Westchester) Alfred Leonard
Barker, C/10521117

Sole British Naval Petty Officer (as Acting Commissioner Westchester) Clifford Frederick
Woods, C/10521117

(I.P.O. 100/48)

1949.—Medical—Malaria Reporting to Singapore on 8 A.F. Protocol

(I.P.O. 100/48) — 8 Aug. 1949)

A Central Pathological Registry has been established at the R.A.F. Institute of Pathology and Tropical Medicine, Malaya Station

2 When inquiries are performed on R.A.F. patients the following material must be sent each inquiry performed as to be sent to the Institute monthly:—

(a) A slide

(b) The blood

(c) A copy of the pathological report

Notice

Two columns are reserved for short papers on subjects of general importance. The names of men and machines referred to in the text should not be underlined, as is customary in the literature on human factors. Names of other machines and devices are underlined to identify them.

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The Harvard system should be employed for bibliographical references, these references being arranged in alphabetical order of the authors' names at the end of the contribution thus: "Smith F. C. (1954) *J. exp. med.* 100: 55." In the text a reference to a publication should be cited by giving the author and in brackets the year thus: "Smith (1954) believed this to be due to."

All communications should reach the Editors as early as possible before the first of the month preceding the date of issue. Manuscripts written, they should be typed in order to avoid confusion and they should be addressed to the Editors, JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE, MEDICAL HOUSE, ADMIRALTY CHURCH HOUSE.

The Journal is published quarterly, four numbers comprising one volume.

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Table 1. The number of subjects in each age group and the number of subjects who completed the study

Age group (years)	Number of subjects	Number of subjects who completed the study
10-11	10	10
12-13	10	10
14-15	10	10
16-17	10	10
18-19	10	10
20-21	10	10
22-23	10	10
24-25	10	10
26-27	10	10
28-29	10	10

10-11, 12-13, 14-15, 16-17, 18-19, 20-21, 22-23, 24-25, 26-27, 28-29 years.

10-11, 12-13, 14-15, 16-17, 18-19, 20-21, 22-23, 24-25, 26-27, 28-29 years. The subjects were recruited from the local community and were screened for any conditions that might affect the results of the study.

The subjects were screened for any conditions that might affect the results of the study. The subjects were screened for any conditions that might affect the results of the study.

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